

**SMITH'S
WELDING
EQUIPMENT**

CATALOG NO. 350-2

... PRESENTING

New

Technical Achievements

SMITH'S New FLO-TROL* Feature

Assures Better Torch Performance and Longer Equipment Life

*FLO-TROL is an exclusive Smith's feature that channels each gas through its proper passage and eliminates the danger of pre-mixing, pre-ignition and back-firing.

Smith's LIFELONG Welding and Cutting Equipment —

Rugged full size equipment for general repair, maintenance and manufacturing.

Smith's MIDLINE Welding and Cutting Equipment —

Medium size and weight for the garage trade and production work.

Smith's AIRLINE Welding and Cutting Equipment —

Feather weight and small size makes this equipment ideal for all Aircraft, Body and Fender Work.

FLO-TROL DIAPHRAGM refuses to permit a reverse flow of acetylene. It is the guard that protects your equipment against seat burn-out, pre-mixing of gases and backfires.

NEW DESIGN allows welding tips and cutting assembly to slip into the torch head and be swivelled to any desired position even when the flame is lighted.

SEAL RINGS keep the gases separated until the point is reached at which they are to be mixed.

FLEXIBLE INSERT in cutting assembly back end prevents leakage of high-pressure oxygen.

NO WRENCH is needed to form a gas-tight seal between tip and torch body.

These Advantages Save Time and Money

Finger tip pressure on tip nut forms gas-tight seal.

No wrench necessary to seat welding tip or cutting assembly.

Fast line-up of tip or cutting assembly.

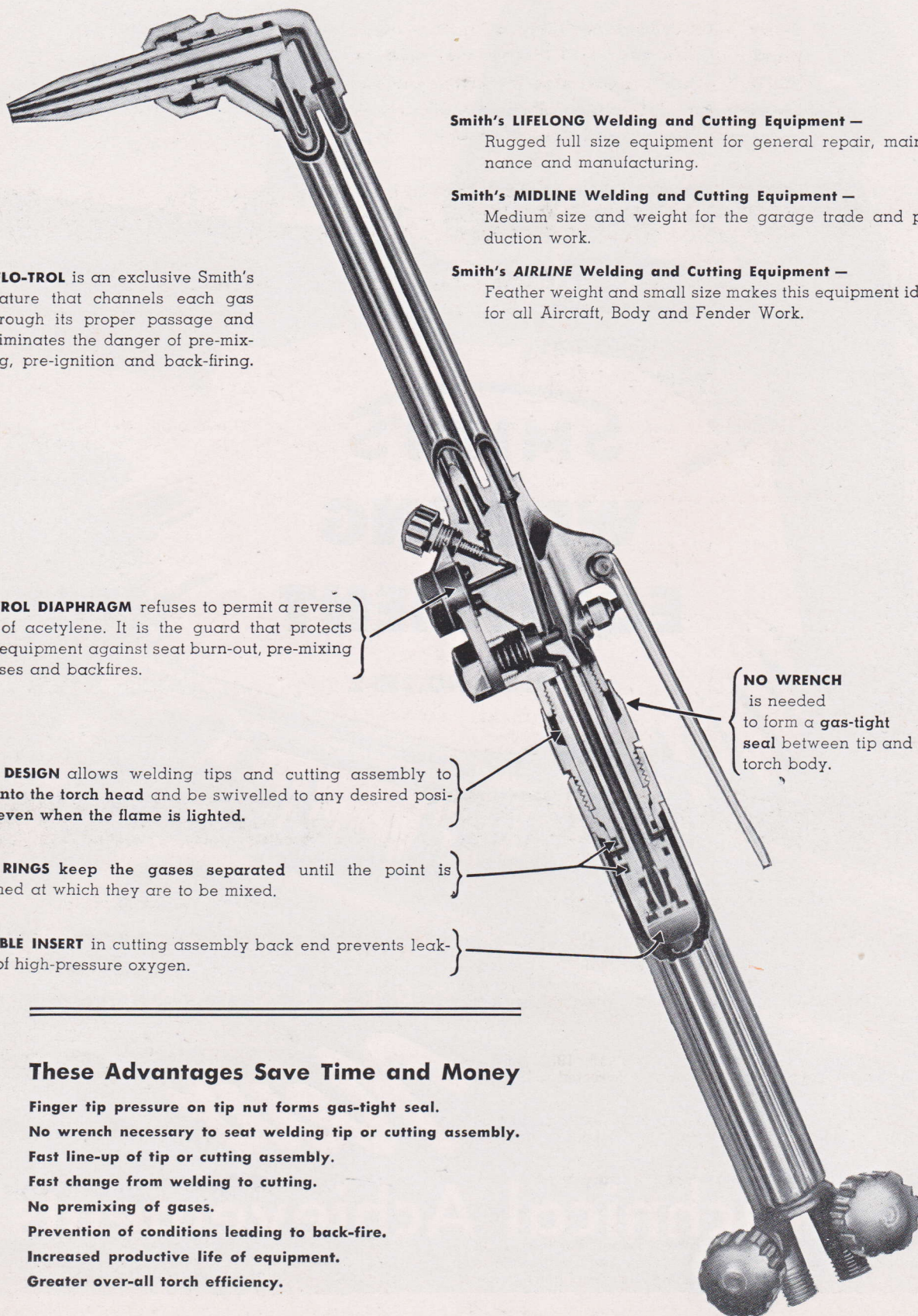
Fast change from welding to cutting.

No premixing of gases.

Prevention of conditions leading to back-fire.

Increased productive life of equipment.

Greater over-all torch efficiency.



Guaranteed Service for the Rest of Your Life - - -

Every purchaser of welding or cutting equipment has a right to expect maximum life and service from the equipment he buys.

SMITH'S actually guarantee **LIFELONG** service on every piece of equipment bearing the **LIFELONG** or *Lifetime* trade mark. In either case, the guarantee is straightforward and clear. It means exactly what it says!

SMITH'S LIFELONG and LIFETIME GUARANTEES

SMITH'S WELDING TORCH BODIES, cutting assemblies and cutting torches bearing either of these trademarks:



are guaranteed when used with genuine Smith's parts, against normal wear and tear during the lifetime of the registered owner and will be replaced or put in the operating condition of new, at the option of the manufacturer, without cost to the owner other than transportation.

All other items listed in this catalog, including welding tips, cutting tips and regulators, are guaranteed against defects in workmanship and material but do not carry a Lifelong or a Lifetime guarantee.

SMITH WELDING EQUIPMENT CORPORATION

It is obvious that the tips and the head nuts of the cutting torch and cutting assembly, which are subject to the intense heat of the oxy-acetylene flame, cannot carry the Lifelong or Lifetime guarantee, but they do carry a guarantee against defect in workmanship or material.

REGISTRATION

Purchasers must register with the manufacturer their names, addresses and the serial number of the part trademarked "Smith's Lifelong Guarantee" or "Smith's Lifetime Guarantee" in order to make the above guarantee effective.

CHANGE OF OWNERSHIP

In case of change of ownership, the guarantees are valid provided a "Notice of Change of Ownership" is filed with the manufacturer and a Transfer of Registry Fee of One Dollar accompanies such notice.

Prices and Shipping Weights

With the exception of prices on Acetylene Generators and A.C. Arc Welders, all prices in this catalog are F.O.B. at the point of distribution. Type "D" Generators, Type "K" Generators and A.C. Arc Welders are priced F.O.B. rail destination except when shipped from distributor's stocks in which case they are priced F.O.B. point of distribution.

All prices are net, effective July 15, 1950, and are subject to change without notice. (Corrected to April 15, 1952.)

Shipping Weights shown are approximate and will vary with the method of packing and shipping.

Approvals on Smith's Equipment

Smith's welding torches, cutting torches, cutting assemblies and welding and cutting tips are listed under the Underwriters' Laboratories Label Service. Acetylene Generators, A.C. Arc Welders and Regulators are listed under the Re-examination Service of Underwriters' Laboratories, Inc. Smith's A.C. Arc Welders also carry Canadian Standards Association Approval No. 6303.

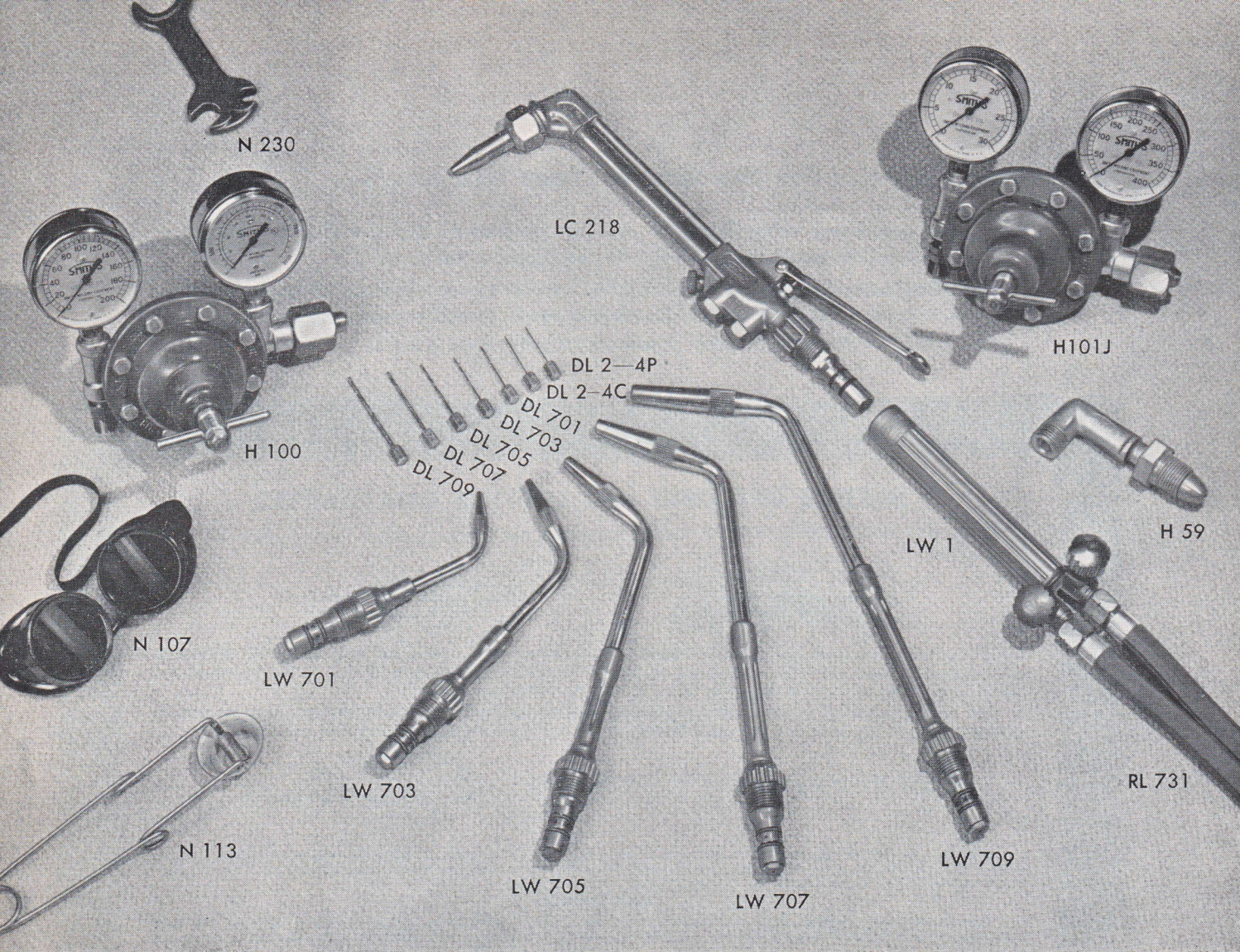
Factory Repair Service

A complete repair service is maintained at Smith's factory and all repairs are handled by carefully trained specialists. Repair charges are reasonable and all work is fully guaranteed.

Equipment bearing Smith's **LIFELONG** or **LIFETIME** trade-marks are repaired or replaced in accordance with the guarantee terms as shown on this page. Your authorized Smith's distributor will gladly take care of sending your equipment in to the factory for repairs.

Loan Equipment Without Charge

Your Authorized Smith's Distributor has a complete supply of loan equipment, including welding torches, cutting assemblies, cutting torches and regulators. This equipment is loaned without charge to users who have Smith's equipment that they wish to send to our factory for repair. The customer is required to pay transportation charges and return loan equipment promptly.



Smith's New **LIFELONG** Welding and Cutting Outfit No. LS318

Price Complete, \$147.40

The new design of Smith's Lifelong Welding Torch body and Cutting Assembly has these time-saving and money-saving features—

Fast line-up of tips and cutting assembly

Gas-tight seat made without the use of a wrench

Less wear on mixing sections

No premixing of gases

FLO-TROL eliminates conditions causing back-fire

Covered by Smith's LIFELONG Guarantee



This complete all-purpose outfit is used by repair shops, manufacturing plants, construction contractors and in the welding of steel, cast and wrought iron and alloy metals. The cutting assembly is supplied with one tip which has a cutting capacity up to $\frac{3}{4}$ " steel.

Additional sizes of welding tips and special purpose tips, as shown on Page 4, may be used in this outfit to further add to its all around usefulness. The complete range of cutting tips for use in the Lifelong Cutting Assembly is also shown on Page 4. These extra items are not included in the standard outfit.

Type BB (single stage) Oxygen and Acetylene regulators, well known for accuracy and dependability, are supplied with the standard outfit as illustrated above.

Outfit No. LS318 contains the following:

1—LS120 Lifelong welding torch body with 5 tips, case and tip cleaners.....	Price	\$49.50
1—LC218 Lifelong cutting assembly with tip No. LC2-4, N230, wrench and tip cleaner DL2-4.....	Price	30.00
1—H100 BB oxygen regulator with gauges.....	Price	27.50
1—H101J BB acetylene regulator and H59 adaptor.....	Price	25.00
1—RL731 25-ft. length $\frac{1}{4}$ " Twin-Twist hose.....	Price	12.20
1—N113 torch lighter.....	Price	.40
1—Pair N107 Goggles.....	Price	2.80

LS318 outfit complete, price each.....147.40

*LS338 outfit LS318 (less H101J regulator), price.....122.40

LS319—Outfit same as LS318 but with LC219—90° head cutting assembly instead of LC218.....Price 147.40

*LS339—Outfit LS319 but less H101J acetylene regulator.....Price 122.40

LS328—Outfit complete, same as LS318 but with BB-2 two-stage regulators Nos. H313 and H315.....Price 165.40

*LS348—Outfit LS328 but less H315 acetylene regulator.....Price 131.40

LS329—Outfit same as LS328 but with LC219—90° head cutting assembly instead of LC218.....Price 165.40

*LS349—Outfit LS329 but less H315 acetylene regulator.....Price 131.40

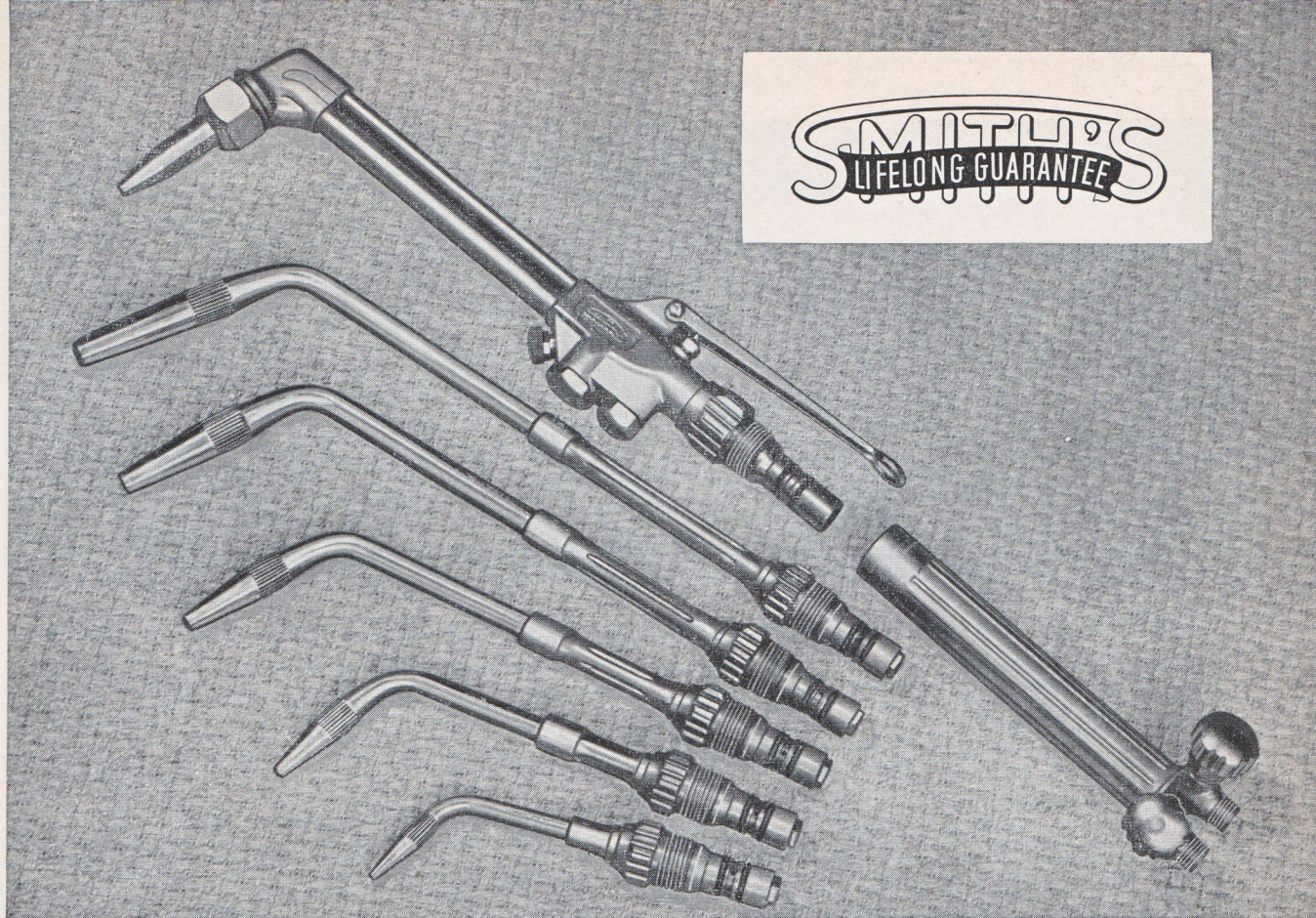
*Acetylene regulator not necessary when using outfit with acetylene generator.

When outfits are desired with welding tip No. LW700 in place of LW709, order by stock number shown but add suffix letter "A."

Shipping Weights

Nos. LS318 & LS319.....	32 lbs. ea.	Nos. LS328 & LS329.....	36 lbs. ea.
Nos. LS338 & LS339.....	27 lbs. ea.	Nos. LS348 & LS349.....	30 lbs. ea.

SMITH'S
LIFELONG GUARANTEE



Smith's New LIFELONG Welding Torch and Cutting Assembly

The LIFELONG Welding Torch with 5 tips illustrated above is included in all combination outfits listed on Page 2. It has a welding range from light sheets up to steel having a thickness of 1" or more. In all, there are 13 welding tips for use in the LIFELONG torch body plus special purpose tips for lead burning, soldering, production welding, cylinder welding and heating.

Torch body is 7 5/16" long and weighs 17 oz. The handle tube is scientifically formed to insure a firm, non-tiring grip in any position. The torch body is covered by Smith's LIFELONG Guarantee.

Needle valves combine a new type of replaceable packing with improved stem design and a ball type seat to assure positive control of both gases and maximum freedom from accidental flame variation.

Slip in tip feature and FLO-TROL design permit tips to be changed in a matter of seconds and assures complete freedom from popping and backfiring. Finger tip pressure on tip nut forms a gas tight seal at junction of tip and torch body head.

See Page 4 for all tips for LIFELONG torch body.

Specifications and Prices

LS120 LIFELONG Welding Torch Body with Tips Nos. LW701, LW703, LW705, LW707, LW709, case and tip cleaners, price.....	\$49.50
LW1 LIFELONG Welding Torch Body only, price.....	20.00
LS308 LIFELONG Welding and Cutting set consisting of welding torch No. LS120 and Lifelong Cutting Assembly No. LC218, price.....	79.50
LS309 LIFELONG Welding and Cutting set consisting of welding torch No. LS120 and Lifelong Cutting Assembly No. LC219, price.....	79.50
LW11 Replacement needle valve stem, (Replaces tapered seat type only) price.....	1.00
LW12 Canvas torch case, price.....	1.50
LW13 Ball type needle valve stem (Replaces ball type only), price.....	1.25
F430-8 Seal rings.....	.05

Shipping weight, torch with 5 tips, 5 5/8 lbs.

When torch sets are desired with welding tip No. LW700 in place of LW709, order by stock number shown but add suffix letter "A."

Smith's LIFELONG Guarantee cutting assembly fits into the welding torch body and converts the outfit, in a matter of seconds, from welding to cutting. Cutting tip No. LC2-4, which cuts steel up to 3/4" thick, is supplied. All cutting tips recommended for use in the Lifelong Cutting Assemblies are listed at bottom of Page 4. Cutting Assembly No. LC218 has 80° angle head, No. LC219 has 90° head.

In the LIFELONG cutting assembly, Smith's exclusive FLO-TROL feature performs its maximum effect. Through the use of two synthetic seal rings and a back end insert, the gases are guided to the point where mixing is desired. A diaphragm valve, between the cutting valve stem section and the oxygen preheat adjusting valve, prevents a reverse flow of acetylene gas into the cutting valve area. This eliminates the conditions leading to backfiring with its incidental damage to seats and tips.

Even when the preheat flames are lighted, the assembly may be turned to any required position. No wrench is needed to make a gas tight seal.

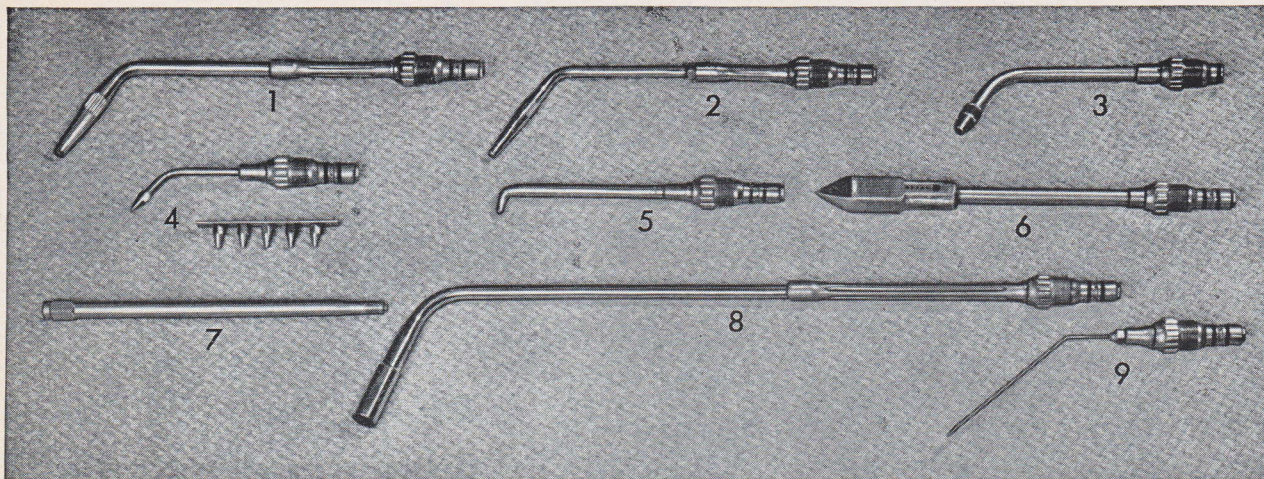
Many users find that the unusual cutting range of this assembly eliminates the need for a heavy duty cutting torch.

Improved lever design and fast opening cutting valve gives the operator instant control of the oxygen cutting jet for accurate and economical cuts. Cutting valve seat is protected from burn-out by the FLO-TROL feature.

This cutting assembly, too, bears the LIFELONG trade mark and is fully protected by Smith's LIFELONG Guarantee as shown on Page 1.

LC218 LIFELONG Cutting Assembly (80° head) with No. LC2-4 tip, wrench and cleaners, price.....	\$30.00
LC219 LIFELONG Cutting Assembly (90° head) with No. LC2-4 tip, wrench and cleaners, price.....	30.00
LC208 LIFELONG Cutting Assembly only, 80° head, price.....	24.15
LC209 LIFELONG Cutting Assembly only, 90° head, price.....	24.15

Shipping weight, LC218 and LC219, 3 3/8 lbs.
Shipping weight, LC208 and LC209, 2 3/8 lbs.



Welding Tips and Special Purpose Tips for LIFELONG Torch Body

(1) Long flame welding tips (see chart below) made in 13 sizes from LW700 to LW712, inclusive. Tip end section is made of hard-drawn copper bent to a 67½° angle. Individual mixing sections are at rear end of tip, away from reflected heat. Tips vary in weight and length according to the work for which they are designed. Individual copper sections or mixing sections may be ordered by specifying tip number and section desired.

(2) Special production tips for hard facing, pipe welding, oil field bit welding and similar types of work where shorter tip length and lighter weight are essential. Tips produce long, soft flames for better and faster work. Made in sizes LW205 to LW211, inclusive. If individual copper bent sections or mixing sections are desired, specify tip size and which piece you want. Priced at one-half the complete tip price.

LW205, LW206, LW207, LW208, LW209, each\$5.30
LW210, LW211, each 6.00

(3) Soldering tips are made in 5 sizes, Nos. LT201, LT202, LT203, LT204, LT205 and burn acetylene only. The larger sizes especially, are ideal for body leading and other types of soldering, light brazing and heating. All sizes produce clean, hot flames so essential to good work. Average weight, 6 oz.

LT201, LT202, LT203, LT204, each\$3.85
LT205, each 4.25

(4) Smith's Lead Burning Assembly is suitable for battery work, lead welding, and various types of soldering, light brazing and even some welding on very light metal. It comes with 6 interchangeable tip ends, Nos. LT101, LT102, LT103, LT104, LT105, LT106, and a convenient tip end holder. Weight, 8 oz.

LT100 Lead burning assembly with 6 tip ends and holder, price\$5.30
Tip ends only30
LT107 Replacement mixing section 2.45
LT108 Replacement bent section75
LT109 Tip end holder30

(5) Cylinder welding tips have a short bend at the tip end and are used for welding cracks in cylinder walls or in other confined places where the opening is 1½ ins. or larger in diameter. Available in sizes LW404, LW405, LW406, LW407 and LW408. Average weight, 9 oz. Price, each\$6.00

If individual copper section or mixing section is desired, specify tip size and which piece you want. Priced at one-half the complete tip price.

(6) Smith's Soldering Assembly is a handy tool for soldering tanks, radiator surfaces, wiring connections and similar work where only a soldering copper can be used. Operates on oxygen and acetylene gases—maintains a steady heat.

LT300 Soldering assembly with 1 lb. bit\$7.00
LT302 1 lb. bit 3.50
LT303 2 lb. bit 4.00
LT301 Soldering assembly, less bit 3.50

(7) Tip extension fits between the copper bent section and mixing section of welding tips Nos. LW705 and larger. Nine ins. long and is used to extend welding tip length for extra hot jobs.

LW50 Tip extension\$3.50

(8) Smith's Heating Tips Made in two sizes. Consume oxygen and acetylene gases to provide a large volume of fast, concentrated heat. Petroleum fuel gases may also be used but volume of heat is lower because of lower flame temperature. Weight—LT505, 22 oz.; LT503, 18 oz.

LT505 Large size, complete\$13.00
Copper bent section 10.00
Mixing section 3.00
LT503 Small size, complete 11.00
Copper bent section 8.35
Mixing section 2.65

(9) Radiator Tip made especially for radiator work or for reaching other hard-to-get-at places. Has a 6-in. flexible tube and is made to operate with oxygen and acetylene gases.

LT400 Radiator tip complete\$3.50
LT401 Replacement flexible tube85
LT402 Replacement mixing section 2.65

Prices and Specifications on Welding Tips LW700 to LW712 Inclusive.

TIP SIZE	LW700	LW701	LW702	LW703	LW704	LW705	LW706	LW707	LW708	LW709	LW710	LW711	LW 712
LENGTH—Inches	6½	6½	7½	8½	9½	10½	11½	12½	13½	14½	15½	16½	17½
WEIGHT—Ounces	6½	6½	7	8½	9	11	12	12½	13½	14½	14¾	15½	16½
DRILL SIZE	71	63	58	54	52	48	44	40	36	32	28	26	25
CLEANER NO.	DL700	DL701	DL702	DL703	DL704	DL705	DL706	DL707	DL708	DL709	DL710	DL711	DL712
CONSUMPTION Each Gas, Cu. Ft.	3½	5	6	9	12	21	23	36	50	58	100	106	108
RANGE—Inches	½	½	½-¾	¾-¾	¾-¾	¾-¾	¾-¾	¾-¾	¾-1	1 & Over	Heavy Castings, Etc.		
COMPLETE TIP, Each	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	6.00	6.00	6.00
MIXING SECTION, Each	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	3.00	3.00	3.00
COPPER BENT SECTION, Each	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	3.00	3.00	3.00

Cutting Tips for Use in Smith's Lifelong Cutting Assembly

LC0-4, LC1-4, LC2-4, LC3-4, LC4-4. Four-hole series, each\$4.00
LC0-6, LC1-6, LC2-6, LC3-6, LC4-6. Six-hole series, each 4.00
LC11-6, LC12-6, LC13-6, LC14-6. Six-hole series, long, each 4.25
LC21-6, LC22-6, LC23-6. Six-hole series, for cutting cast iron, each 4.25
LC31-0, LC32-0, LC33-0, LC34-0. Consume petroleum fuel gases and oxygen, each 4.00

LC61-0 and LC62-0. Step type tips for cutting light metal, each\$5.00
LC51-0. Rivet-cutting tip, each 5.00
LC41-0. Special tip for gouging and groove cutting, each 11.00

For complete listing of cutting tips, see Page 15.
Charts on page 38 give recommended pressures, gas consumption data, cutting speeds and other information on the more frequently used cutting tips.

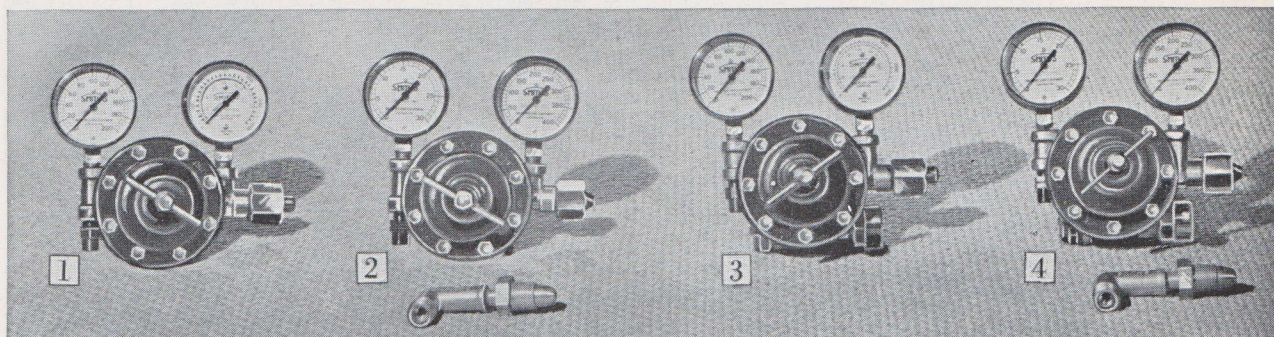
REGULATORS for Use in LIFELONG Welding and Cutting Outfits

Smith's regulators, whether single stage (Type BB) or two-stage (Type BB-2), have frictionless ball bearing seating arrangements that assure correct alignment of seat and nozzle. Composition seat has two useable surfaces. Nozzles have hardened seating surface which resists nicking and wear.

All parts are easy to replace in case they become damaged and the occasional repairs needed can be made by the operator right on the job. No special maintenance tools are necessary.

Regulator bodies are brass forgings and both types are similar except that Type BB-2 bodies are larger to accommodate both the first and second stage mechanisms. Bonnets are drawn of heavy gauge metal and have baked finish on inside and outside surfaces. Diaphragms are full 4" in diameter for more accurate regulation. They are made of sensitive fabric, vulcanized and reinforced.

Special nozzle screens keep out foreign matter and dissipate the heat of compression formed when a full cylinder is opened suddenly. This protects against seat burn-out.



(1) H100 Single-Stage Oxygen Type BB Welding Regulator, used in outfits Nos. LS318, LS338, LS319 and LS339. For all types of welding and medium cutting. Green bonnet.

Supplied with 2½" diameter gauges; 200 lb. working pressure and 3000 lb. inlet or tank pressure. Outlet has ⅝"-18 right-hand thread which fits nut on R11 and R13D hose connections.

H100 Regulator with gauges, each.....\$27.50

H97 Regulator without gauges, each.....18.00

Weight with gauges 5 lbs. 4 oz. Without gauges 3 lbs. 14 oz.

(2) H101J Single-Stage Acetylene Type BB Regulator, used in outfits No. LS318 and LS319. Red bonnet. Supplied with 400-lb. inlet pressure gauge and 30-lb. outlet pressure gauge—2½" diameter. Inlet connection fits Airco No. 4 and 5 Acetylene cylinders, but H59 Adaptor is furnished in case cylinder having female type of outlet valve is used.

Outlet has ⅝"-18 left-hand male thread which fits nut on R12 and R14D hose connections.

H101J Regulator with gauges, each.....\$25.00

H98 Regulator without gauges, each.....18.00

Weight with gauges 5 lbs. 6 oz. Without gauges 4 lbs.

(3) H313 Two-Stage Oxygen Type BB-2 Welding Regulator, used in outfits Nos. LS328, LS348, LS329 and LS349. Green bonnet. Especially recommended for more accurate flame control in hard facing or in other special work. Has 2½" 200-lb. and 3,000-lb. gauges. Inlet connection fits standard oxygen cylinder valves. Outlet has ⅝"-18 right-hand male thread which fits nut on R11 or R13D hose connections.

H313 Regulator with gauges, each.....\$36.50

H312 Regulator without gauges, each.....27.00

Weight with gauges 6 lbs. 12 oz. Without gauges 5 lbs. 6 oz.

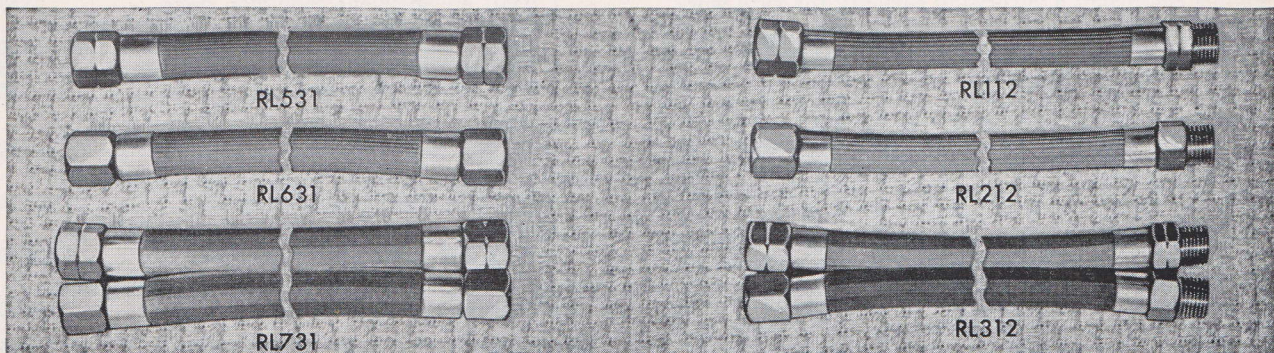
(4) H315 Two-Stage Acetylene Type BB-2 Regulator, used in outfits Nos. LS328 and LS329. Red bonnet. Use with H313 Oxygen Regulator for specialized work and accurate flame control. Has 2½", 30-lb. and 400-lb. gauges. Inlet connection fits Airco No. 4 and No. 5 cylinders, but H59 Adaptor is furnished when regulator is used on cylinder having female type of outlet valve. Outlet has ⅝"-18 left-hand male thread which fits nut on R12 and R14D hose connections.

H315 Regulator with gauges, each.....\$34.00

H314 Regulator without gauges, each.....27.00

Weight with gauges 7 lbs. 4 oz. Without gauges 6 lbs.

HOSE for Use in LIFELONG Welding and Cutting Outfits



RL531 25 ft. length ¼" acetylene hose with R12 connections on each end. Fits acetylene regulator outlet and acetylene inlet on Lifelong, Lifetime, Thrift-torches and other torches which have standard ¼" left hand male hose connection thread, length.....\$6.10

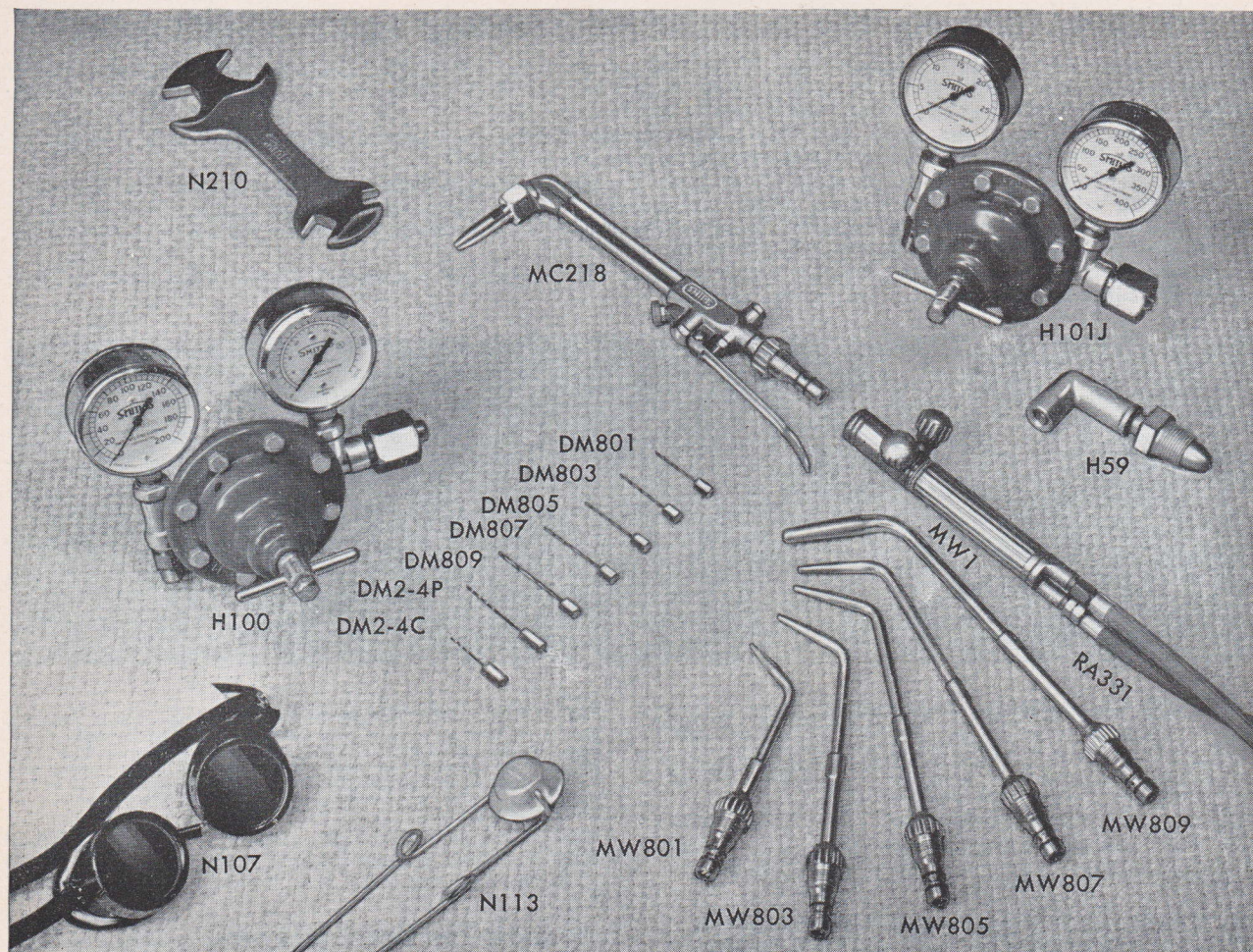
RL631 25 ft. length ¼" oxygen hose with R11 connections on each end. Fits oxygen regulator outlet and oxygen inlet on Lifelong, Lifetime, Thrift-torches and other torches which have standard ¼" right hand male hose connection thread, length.....\$6.10

RL731 25 ft. length ¼" Twin-Twist hose with R11 and R12 connections on each end. Takes the place of RL531 and RL631 single line hoses, and fits the same regulators and torches, length.....\$12.20

RL112 6 ft. length ⅜" acetylene leader hose with R14D and R21 connections. Fits between the standard ¼" acetylene hose and the acetylene inlet connection on Lifelong, Lifetime and Thrift-torches, length.....\$1.68

RL212 6 ft. length ⅜" oxygen leader hose with R13D and R20 connections. Fits between the standard ¼" oxygen hose and the oxygen inlet connection on Lifelong, Lifetime and Thrift-torches, length.....\$1.68

RL312 6 ft. length ⅜" Twin-Twist leader hose with connections R13D and R14D on one end, R20 and R21 on other end. Takes the place of RL112 and RL212 and serves the same purpose, length.....\$3.36



Smith's New **MIDLINE** Welding and Cutting Outfit No. MS318

PRICE COMPLETE, \$131.90

An ideal outfit, with torch and cutting assembly of completely new design, capable of handling any welding and cutting normally encountered in the garage or repair shop. It is also a fine industrial torch for light and medium production welding because it is so easy to handle. It is intermediate in size and weight—smaller and lighter than the Lifelong torch, but somewhat larger and heavier than the Airline. Sturdy construction gives Midline equipment a surprising capacity for hard work.

The outfit illustrated has five welding tips (Nos. MW801, MW803, MW805, MW807 and MW809) providing a welding range from 1/32" to 3/8" material. A smaller size tip, No. MW800, intermediate sizes and three larger sizes can be added to further increase the range. In addition, there are special purpose tips available for soldering, brazing and radiator work which may be added at any time. Page 7 lists the complete series of tips for use in the Midline torch body.

Smith's Midline Cutting Assembly, supplied with the outfit, has 80° angle head and is equipped with tip No. MC2-4 capable of cutting steel up to 5/8" thick. Additional sizes plus special tips for light metal cutting and rivet cutting are obtainable, but not included with the outfit. Please refer to Page 7 for complete list. This assembly is also made with 90° angle head.

FLO-TROL (an exclusive Smith's feature) plays an important part in the successful operation of Midline equipment by directing each gas through its proper channel to the point of mixing and exit. No more popping, back-firing or burned out seats. FLO-TROL guards against those troubles at all times.

Type BB single stage regulators, justly famous for accuracy and dependability, are included with the outfit as well as a 25 foot length of 3/16" Twin-Twist hose.

Outfit No. MS318 contains the following:

1 MS120 Midline Welding torch with 5 tips, case and cleaners, price.....	\$41.00
1 MC218 Midline cutting assembly with MC2-4 tip, N210 wrench and cleaner, price.....	25.00
1 H100 BB Oxygen regulator, price.....	27.50
1 H101J BB Acetylene regulator, price.....	25.00
1 RA331 25-ft. length 3/16" Twin-Twist hose, price.....	10.20
1 N107 Pair goggles, price.....	2.80
1 N113 Torch lighter, price.....	.40

MS318 Midline Welding and Cutting Outfit complete, price..... **131.90**

***MS338** Midline Welding and Cutting Outfit No. MS318 less H101J regulator, price..... **106.90**

MS319 Midline Outfit, complete, same as MS318 but with MC219 cutting assembly, price..... **131.90**

***MS339** Midline welding and cutting outfit No. MS319 less H101J regulator, price..... **106.90**

*An acetylene regulator is not necessary when outfit is used with an acetylene generator.

Refer to page 11 for hose and regulator information.

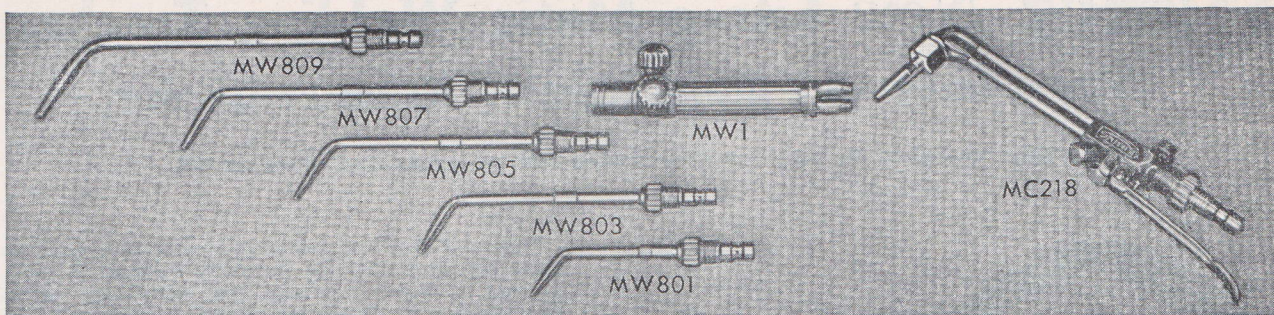
Shipping Weights

MS318 and MS319 25 lbs. each

MS338 and MS339 19½ lbs. each

Plumbers and steamfitters find this outfit very handy for welding small diameter pipe, joining copper pipe and for use in confined space.

Smith's New **MIDLINE** Welding Torch and Cutting Assembly



Midline Welding Torch

This welding torch body with the five tips illustrated is included in all outfits listed on Page 6. 13 welding tips are available for use in the MIDLINE torch body giving it a welding range from 1/32" to 5/8". Special purpose tips also available. An ideal torch for the average garage or repair shop.

All tips and the cutting assembly slip into torch body head and may be swivelled to any desired position even with flames lighted. Torch body is 7 inches long and weighs only 11 1/4 oz. Valves are located at front end of body for easy one hand flame adjustment.

Exclusive FLO-TROL feature prevents pre-mixing of gases, popping and back-firing and assures longer life.

The torch illustrated has five tips, one each Nos. MW801, MW803, MW805, MW807 and MW809, but may be ordered with any assortment of tips desired. See complete tip listing below.

MS120 Midline Welding Torch with 5 tips, case and cleaners, price	\$41.00
MS308 & MS309 Midline Welding and Cutting set. Consists of MS120 welding torch set and Midline Cutting Assembly MC218, or MC219, price	66.00
MW1 Midline Welding Torch Body only, price	15.50
MW11 Replacement needle valve stem, price	1.00
MW12 Torch bag only	1.00
F250-4 Seal rings, each	.05

Weight, torch with 5 tips—3 lbs.

Midline Cutting Assembly

Back end slips into the MIDLINE torch body and forms a light, well balanced cutting torch with a cutting range from 1/8" to 1 1/2". Five sizes of cutting tips, Nos. MC1-4, MC2-4, MC3-4, MC4-4 and MC5-4, are available for ordinary cutting plus special tips for cutting thin sheet metal and rivet cutting.

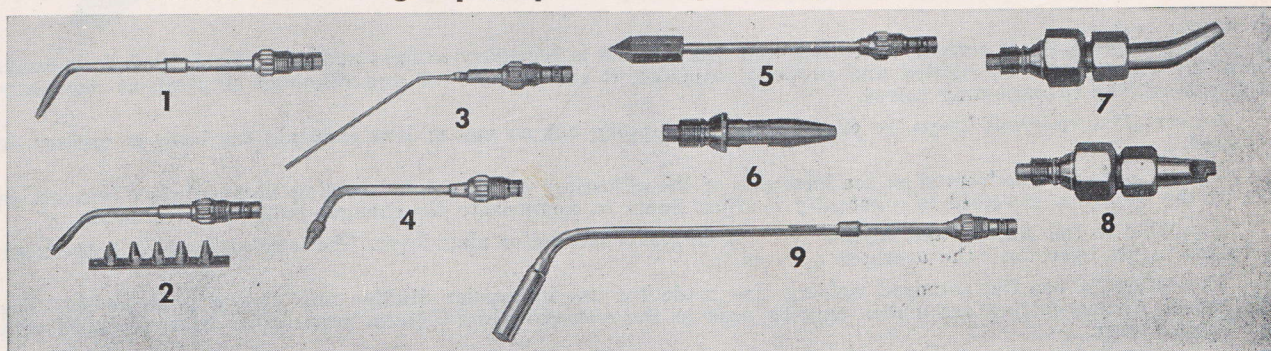
Assembly No. MC218 which has 80° angle head and tip No. MC2-4 is supplied in Outfit Nos. MS318 and MS338. Assembly No. MC219 which has 90° angle head and tip No. MC2-4 is supplied in Outfit Nos. MS319 and MS339.

In this cutting assembly, FLO-TROL offers maximum protection against damage caused by pre-ignition of gases and back-fire. Each gas is separated and directed through its proper channel so that the conditions leading to back-fire are eliminated.

The MIDLINE Cutting Assembly has sufficient capacity to handle any light and medium cutting that the average garage is called upon to do.

MC218 80° Midline Cutting Assembly with MC2-4 tip, N210 wrench, and cleaners DM2-4P & DM2-4C, price	\$25.00
MC208 80° Midline Cutting Assembly only, price	19.40
MC219 90° Midline Cutting Assembly with MC2-4 tip, N210 wrench, and cleaners DM2-4P & DM2-4C, price	25.00
MC209 90° Midline Cutting Assembly only, price	19.40
N210 Wrench, each	1.25
MC218 and MC219—2 1/4 lbs. each	
MC208 and MC209—1 1/8 lbs. each	

Midline Welding Tips, Special Purpose Tips and Cutting Tips



(1) **Standard Welding Tips** made in 13 sizes. Each tip has individual mixing section and hard drawn copper bent section. See chart on page 39.

MW800, MW801, MW802, MW803, MW804, MW805, MW806, MW807, MW808, MW809 complete tips, each	\$4.60
MW810, MW811, MW812 complete tips, each	5.20

(2) **MT100 Lead Burning Assembly** with 6 tip ends and holder. Uses same tip ends as LT100, price..... 5.30
 MT107 Mixing section for MT100, price..... 2.30
 MT108 Bent section for MT100, price..... .90

(3) **MT400 Radiator Tip**, price each 3.15
 MT401 Tip end for MT400, each..... .85
 MT402 Mixing section for MT400, each..... 2.30

(4) **MT203 Soldering Tip**. Burns acetylene, each 3.50

(5) **MT300 Soldering Assembly** with bit, each.... 6.00

(6) **Standard Cutting Tips** made of hard drawn copper by special swaging process. Have four pre-heat holes and are 2 3/4" in length. Each tip has one fixed and one moveable seat.
 MC1-4, MC2-4, MC3-4, MC4-4, MC5-4, each (specify size).....\$3.75

(7) **MC51-0 and MC52-0 Rivet Cutting Tips**, each 4.75

MC51-2 Replacement mixing section with head nut for MC51-0, MC52-0, MC61-0 and MC62-0, each	2.25
LC51-1 Replacement tip end and nut for MC51-0, each	2.50
LC52-1 Replacement tip end and nut for MC52-0, each	2.50

(8) **Step Type Cutting Tip** for light metal. Made in two sizes.

MC61-0 for 24 gauge to 14 gauge, each	\$4.75
MC62-0 for 18 gauge to 1/8", each	4.75
LC61-1 Replacement tip end and nut for MC61-0, each	2.50
LC62-1 Replacement tip end and nut for MC62-0, each	2.50

All of the cutting tips on this page except MC4-4 and MC5-4 can be used in the Airline Cutting Assembly listed on Page 10.

(9) **Heating Tips** provide concentrated heat. Consume oxygen and acetylene gases. Two sizes.

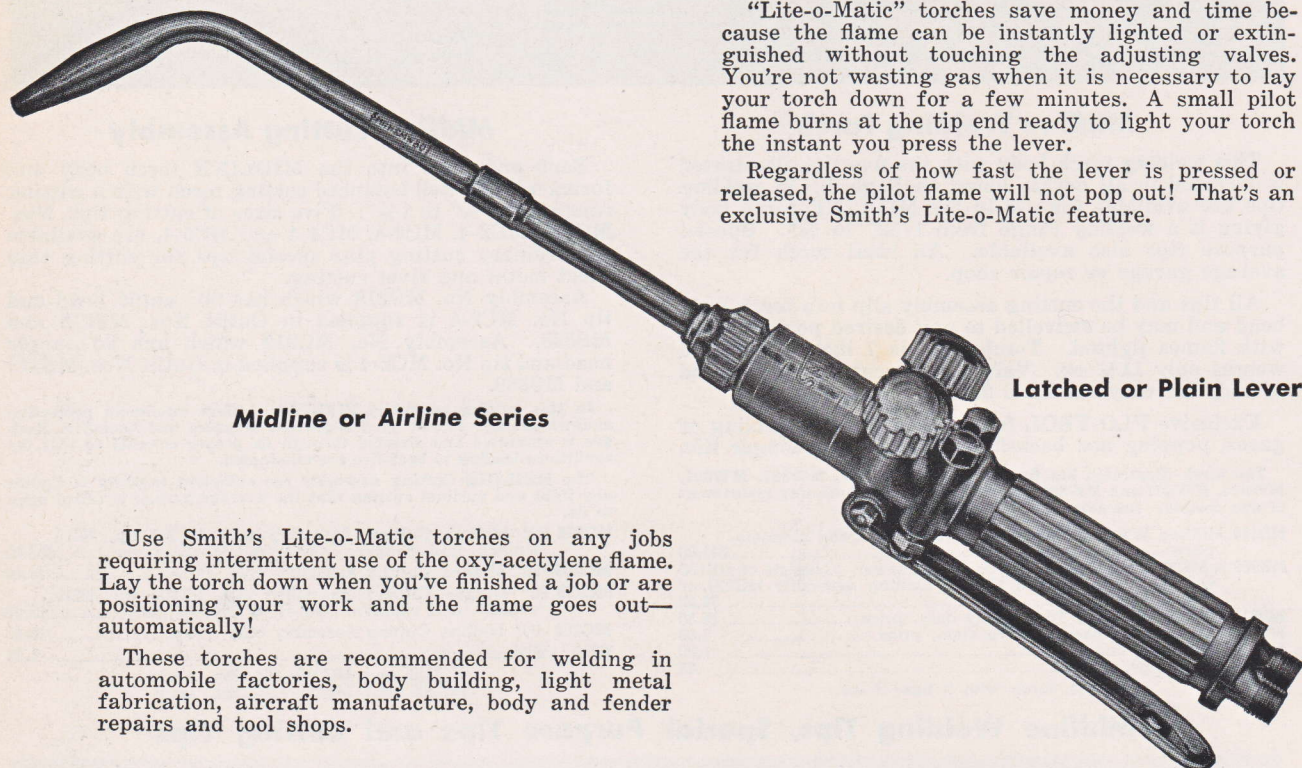
MT505 Large size, each	\$11.00
MT503 Small size, each	9.00

See chart on Page 39 for additional information.

SMITH'S New Lite-o-Matic Welding Torches

Press a lever---the flame lights! Release---it's out!

Torches designed to pay for themselves out of gases and time saved.



Midline or Airline Series

Latched or Plain Lever

Use Smith's Lite-o-Matic torches on any jobs requiring intermittent use of the oxy-acetylene flame. Lay the torch down when you've finished a job or are positioning your work and the flame goes out—automatically!

These torches are recommended for welding in automobile factories, body building, light metal fabrication, aircraft manufacture, body and fender repairs and tool shops.

Smith's Lite-o-Matic torches save time and gas when it is necessary to light and shut off the torch frequently. Once the flame has been lighted and properly adjusted, it can be shut off and relighted as often as necessary without touching the adjusting valves.

An acetylene reservoir keeps the pilot flame from popping out no matter how suddenly the lever is pressed or released.

The lever valves are located on the inlet side of the adjusting valves so the welding flame always remains as set by the operator. No need to constantly readjust flame to compensate for changes in lever valve action.

Available in the Midline and Airline series with either latched or plain lever. The latched lever holds the lever actuated valves open until the operator releases it.

These torches use the standard welding tips made for use in regular Midline and Airline torch bodies. The Midline or Airline cutting assemblies may be used in the respective Lite-o-Matic torch bodies when equipped with the latched lever.

Prices and Specifications

Midline Lite-o-Matics

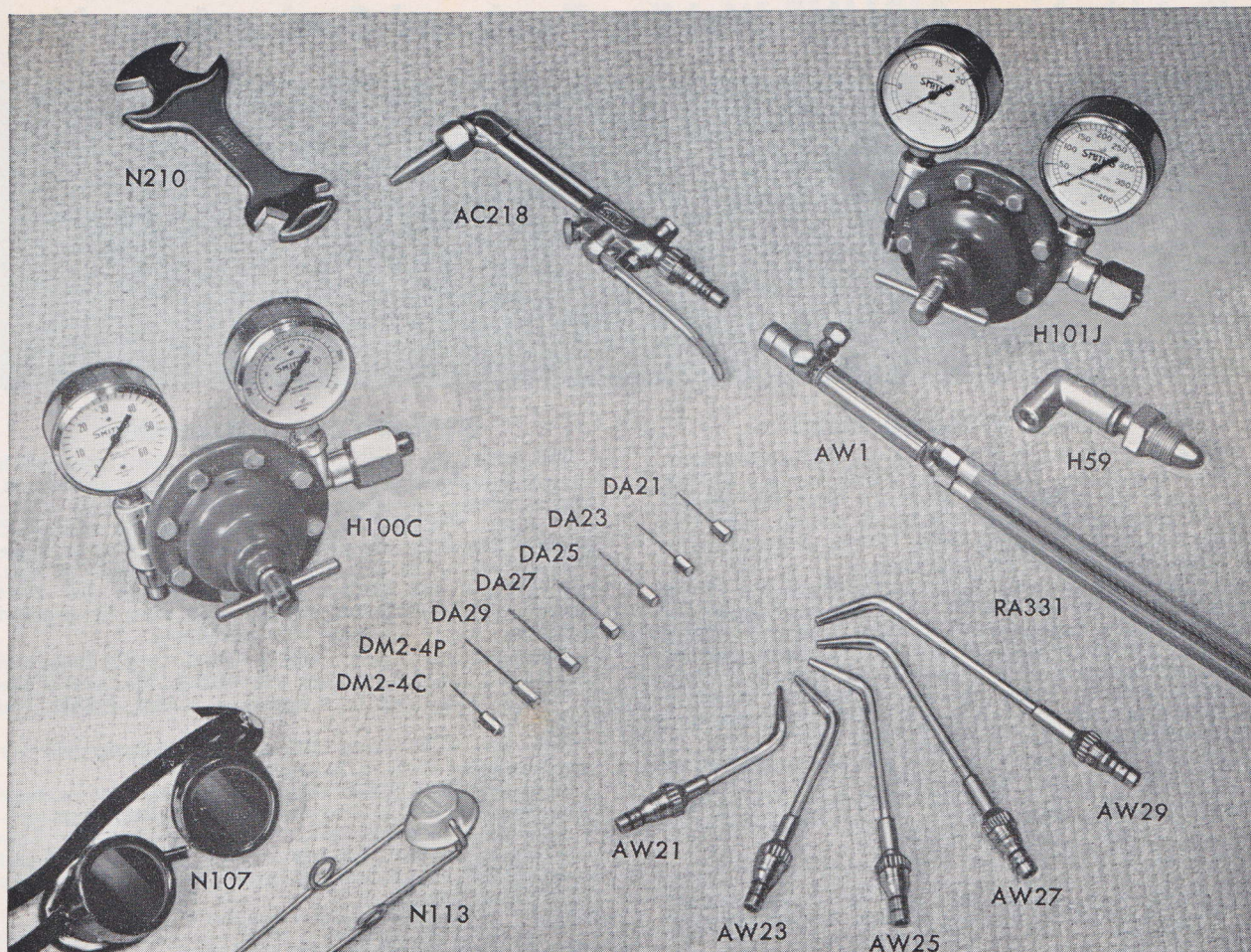
MW2 —Midline Lite-o-Matic Torch Body only. With latched lever. Price.....	\$24.00
MW3 —Midline Lite-o-Matic Torch Body only. With plain lever. Price.....	24.00
MS121 —Torch set. Consists of: MW2 Torch Body, one each MW801, MW803, MW805, MW807 and MW809 Welding Tips, tip cleaners and MW12 torch bag. Price	49.50
MS122 —Torch set. Same as MS121 but with MW3 Torch Body in place of MW2. Price.....	49.50

Any desired assortment of welding tips can be furnished with the Lite-O-Matic torch body. Refer to page 7 for welding tip listing. Unless otherwise specified, torch body MW2 or torch set MS121 will be shipped.

Airline Lite-o-Matics

AW2 —Airline Lite-o-Matic Torch Body only. With latched lever. Price	21.00
AW3 —Airline Lite-o-Matic Torch Body only. With plain lever. Price.....	21.00
AS121 —Torch set. Consists of: AW2 Torch Body, one each AW21, AW23, AW25, AW27 and AW29 Welding Tips, tip cleaners and AW12 torch bag. Price.....	39.50
AS122 —Torch Set. Same as AS121 but with AW3 Torch Body in place of AW2. Price.....	39.50

Any desired assortment of welding tips can be furnished with the Lite-O-Matic torch body. Refer to page 10 for welding tip listing. Unless otherwise specified, torch body AW2 or torch set AS121 will be shipped.



Smith's New **AIRLINE** Welding and Cutting Outfit No. AS318

PRICE COMPLETE, \$121.90

This outfit features the new feather light Airline Welding torch and cutting assembly. It's a complete outfit for use in Aircraft manufacture and repair, auto body shops, sheet metal shops and many other places where a small, light torch is needed. It is also ideal for use as a "second" torch in shops which specialize in heavy work, but have frequent need for a small torch for light work.

The torch body is 5 $\frac{3}{4}$ inches long overall and weighs only 6 ounces. Sixty degree placement of valves at forward end of torch body lends itself to one hand control of flame adjustment.

Welding tips and cutting assembly are manufactured to Smith's new slip-in design and may be swivelled in any direction even when the flame is lighted. Positive gas tight seal is made without the use of a wrench so changing from one tip to another or from welding to cutting is done in a few seconds.

Smith's exclusive FLO-TROL feature confines each gas through its proper channel thus eliminating pre-mixing of gases, popping and other conditions which might lead to a back-fire with its incidental damage.

The complete outfit includes one each welding tips Nos. AW21, AW23, AW25, AW27 and AW29 covering a range from light metal up to $\frac{1}{4}$ " thick. Other sizes of standard welding tips and those for lead burning, radiator work and soldering are also available, but are not included in the outfit.

The Airline Cutting Assembly has one tip No. MC2-4 capable of cutting steel up to $\frac{5}{8}$ " in thickness. Two other sizes MC1-4 and MC3-4 may also be used in this cutting assembly as well as tips for cutting rivets and for light metal cutting. These extra tips are not in-

cluded in the outfit. The 80° angle head cutting assembly is furnished with the outfit, but a 90° angle head assembly is available if desired.

Many welders tell us that this outfit will handle 75% of the work in the average shop.

Outfit No. AS318 includes the following:

1 AS120 Airline Welding torch body with 5 tips, case and cleaners, price.....	\$31.00
1 AC218 Airline cutting assembly with MC2-4 tip, N210 wrench and cleaner, price.....	25.00
1 H100C BB Oxygen regulator, price.....	27.50
1 H101J BB Acetylene regulator, price.....	25.00
1 RA331 25 ft. length 3/16" Twin-Twist hose, price	10.20
1 N107 Pair goggles, price.....	2.80
1 N113 Torch lighter, price.....	.40

AS318 Airline Welding and Cutting Outfit complete, price (Shipping Weight, 24 lbs.).....**121.90**

***AS338** Airline Welding and Cutting Outfit AS318 less H101J regulator, price.....**96.90**

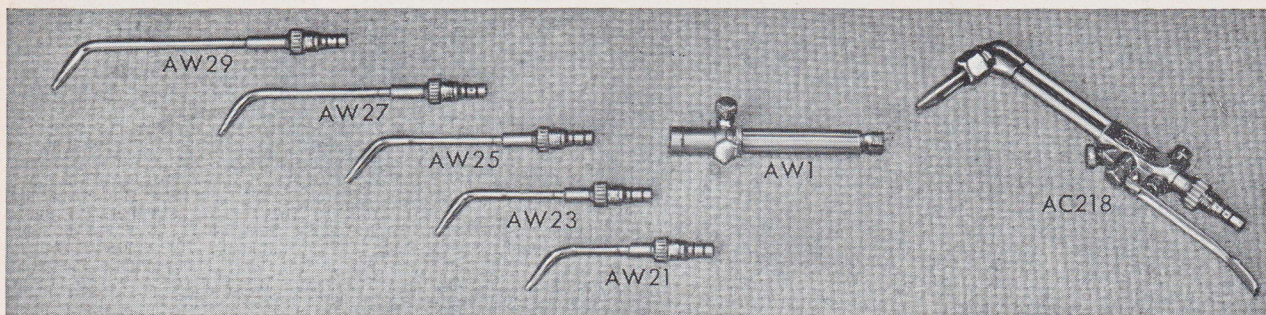
AS319 Airline Outfit, complete, with AC219 90° head cutting assembly, price (Weight, 24 lbs.).....**121.90**

***AS339** Airline Welding and Cutting Outfit AS319 less H101J regulator, price.....**96.90**

*An acetylene regulator is not necessary when the outfit is used with an acetylene generator.

NOTE: If you need a small "second" torch for light work, see the Airline welding torch and Manifold set on Page 11.

Smith's New AIRLINE Welding Torch and Cutting Assembly



Airline Welding Torch

The AIRLINE Welding Torch is the featherweight in Smith's line of fine torches. It is smaller and lighter than either the Lifelong or Midline. With the largest size of welding tip (No. AW30) it weighs only 9½ ounces and is 12¾ inches long. Torch body alone is 5¾ inches long and weighs 6 ounces.

The needle valves are located at the front end of the torch body and placed at a 60° angle for easy finger tip control of flame adjustment. Welding tips and cutting assembly are designed with Smith's new slip in feature which permits them to be swivelled to any desired position even with the flames lighted. Finger tip pressure on tip nut or back end nut makes a gas tight seal and no wrench is necessary for this purpose.

New needle valve design and improved packing eliminate leakage and accidental change in flame adjustment.

Torch No. AS120 has five tips (one each Nos. AW21, AW23, AW25, AW27, AW29) and is supplied in all standard outfits listed on Page 9.

AS120 Airline Welding Torch with 5 tips, case and cleaners, price	\$31.00
AS308 & AS309 Airline Welding and Cutting set. Consists of AS120 welding torch set and Airline Cutting Assembly AC218 or AC219, price	56.00
AW1 Airline torch body only, price	12.50
AW11 Replacement needle valve stem, price	1.00
AW12 Canvas carrying case, price	1.00
F640-4 Seal rings, each	.05

Airline Cutting Assembly

The AIRLINE Cutting Assembly fits the Airline torch body and converts the equipment, in a matter of seconds, into a convenient cutting torch with a capacity up to 1½" steel. Tip No. MC2-4 supplied in the AIRLINE Cutting Assembly included in the outfits listed on Page 9 cuts steel up to ¾" thick. Two other sizes of tips, Nos. MC1-4 and MC3-4 plus special tips for rivet cutting and light metal cutting may also be ordered to further add to the range and usefulness.

Cutting Assembly No. AC218 has 80° angle head and is supplied in outfits AS318 and AS338. No. AC219 has 90° angle head and is supplied in outfits AS319 and AS339.

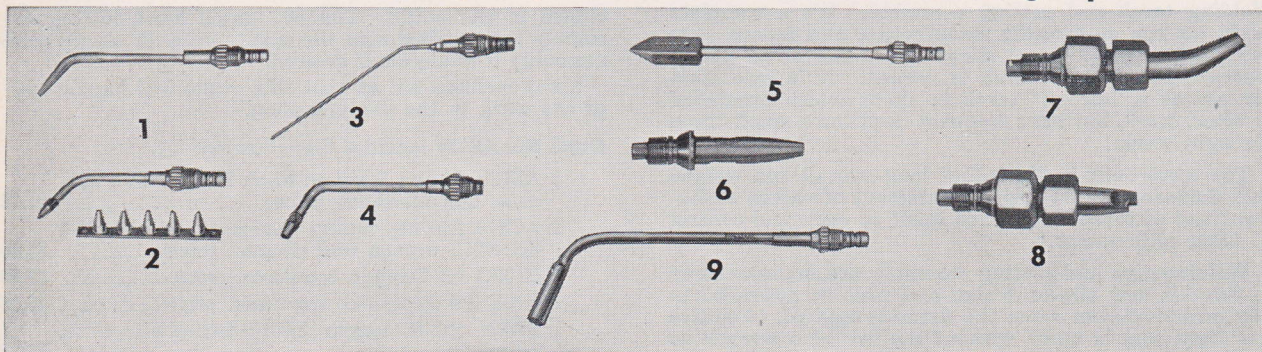
Tips No. MC4-4 and MC5-4 not recommended for use in Airline Cutting Assembly.

Exclusive FLO-TROL design guards against damage caused by back-fire and reverse flow of gases, by properly directing each gas into its proper channel. This eliminates conditions leading to the usual troubles found in equipment which does not incorporate Smith's unique FLO-TROL feature.

AC218 80° Airline cutting assembly with tip No. MC2-4, wrench No. N210 and tip cleaner, price	\$25.00
AC208 80° Airline cutting assembly only, price	19.40
AC219 90° Airline cutting assembly with tip No. MC2-4, N210 wrench and tip cleaner, price	25.00
AC209 90° Airline cutting assembly only, price	19.40

Shipping weight—assembly with tip and wrench, 2 lbs.

Airline Welding Tips, Special Purpose Tips and Cutting Tips



(1) **Standard Welding Tips** made in sizes AW18, AW19, AW20, AW21, AW22, AW23, AW24, AW25, AW26, AW27, AW28, AW29, AW30. Each tip has bent section made of hard drawn copper and individual mixing section. See chart on page 39. Price each (specify size).....\$3.20

Replacement copper sections and mixing sections are priced at one-half the price of the complete tip. Order by tip number.

(2) **AT100 Lead Burning Assembly** with 6 tip ends and holder, price.....\$4.60

AT107 Replacement mixing section, price	1.60
AT108 Replacement bent section, price	.90
LT101, LT102, LT103, LT104, LT105, LT106 tip ends, each	.30

(3) **AT400 Radiator Tip**, each.....2.45

AT401 Replacement tip end, each	.85
AT402 Replacement mixing section	1.60

(4) **AT203 Soldering Tip**, burns acetylene only, each 2.80

(5) **AT300 Soldering Assembly** with bit, each..... 6.00

(6) **Standard Cutting Tips** made of hard drawn copper by a special swaging process. Have four preheat holes and are 2¾" long. Each tip has one fixed and one moveable seat.

MC1-4, MC2-4, MC3-4 cutting tips, each (specify size).....\$3.75

(7) **MC51-0 and MC52-0 Rivet Cutting Tips**, each.....\$4.75

MC51-2 Replacement mixing section with head nut for MC51-0, MC52-0, MC61-0 and MC62-0, each	2.25
LC51-1 Replacement tip end and nut for MC51-0, each	2.50
LC52-1 Replacement tip end and nut for MC52-0, each	2.50

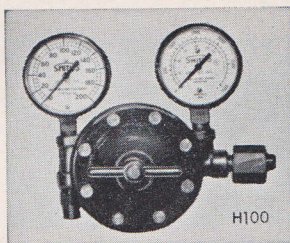
(8) **Step Type Cutting Tip** for light metal. Two sizes.

MC61-0 for 24 gauge to 14 gauge, each	\$4.75
MC62-0 for 26 gauge to 1/8", each	4.75
LC61-1 Replacement tip end and nut for MC61-0, each	2.50
LC62-1 Replacement tip end and nut for MC62-0, each	2.50

(9) **AT505 Heating Tip** provides concentrated heat. Consumes oxygen and acetylene gases, each.....\$9.00
Copper bent section, each..... 6.40
Mixing section, each..... 2.60

REGULATORS

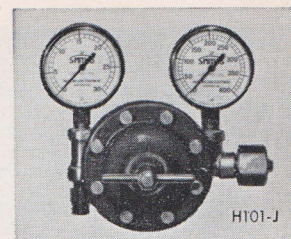
Used in **MIDLINE** and **AIRLINE** Outfits



Smith's Type BB Single Stage Regulators are used in all Airline, Midline and outfits illustrated and described on Pages 6 and 9. Refer to Pages 24 and 25 for more detailed regulator information.

These regulators give maximum single stage control of oxygen and acetylene gases. They incorporate a frictionless ball bearing seat holder which assures exact alignment of nozzle and seat. Vulcanized fabric diaphragm, full 4" in

diameter, is extremely sensitive to pressure fluctuations for more accurate gas flow control. Regulator seats are made of special composition and have two useable surfaces.



H100—BB Oxygen Welding Regulator has 2½" diameter, 200-lb. and 3,000-lb. gauges. Inlet fits standard oxygen cylinder valves. Outlet has 9/16"-18 right-hand male thread which fits nut of hose connections R13D and R11. Maximum useable outlet pressure 100 lbs. Supplied in all Midline outfits.

H100 Regulator with gauges, each.....\$27.50

H97 Regulator, less gauges, each..... 18.00

H100C—BB Oxygen Welding Regulator Same as H100, except it has 60-lb. outlet pressure gauge. Used in all Airline outfits. **H100C** regulator with gauges, each \$27.50

Weight, with gauges 5¼ lbs.; less gauges, 3¾ lbs.

H101J—BB Acetylene Regulator with 30 lb. and 400 lb. 2½" diameter gauges. Inlet connection fits valve on Airco No. 4 and No. 5 welding cylinders. Adaptor No. H59 is furnished in case regulator is to be used on P.O.L. or other cylinders having a female type of outlet valve. Regulator outlet has 9/16"-18 left hand male thread which fits nut of R14D and R12 hose connections. Outlet pressure greater than 15 lbs. should not be used.

H101J—BB Acetylene Regulator with gauges, each.....\$25.00

H98—BB Acetylene Regulator, less gauges, each..... 18.00

Weight: with gauges 5½ lbs., less gauges 4 lbs.

Hose for Use with **MIDLINE** and **AIRLINE** Torches and Outfits

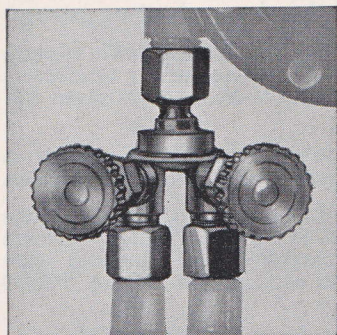
RA331—25 ft. length of 3/16" Twin-Twist hose with connections R13, R13D, R14 and R14D. Included in all Midline and Airline outfits on pages 6 & 9. Per length \$10.20

RA112—6 ft. 3/16" Acetylene Leader Hose with R21 and R14 connections. Enables Airline and Midline torches to be connected to ¼" acetylene hose having R12 connections. Per length.....\$1.68

RA212—6 ft. 3/16" Oxygen Leader Hose with R20 and R13 connections. Enables Airline and Midline torches to be connected to ¼" oxygen hose having R11 connection. Per length.....\$1.68

RA312—6 ft. 3/16" Twin-Twist Leader Hose with connections R20, R21, R13 and R14. Can be used in place of RA112 and RA212. Per length.....\$3.36

Should you wish to use Midline or Airline torch body on hose having R11, R12, R13D or R14D connections, order adaptors Nos. R29 and R30. See page 30.



Smith's Two Hose Regulator Manifold

*Lets You Use
Two Torches
from
One Set of
Regulators*

These manifolds make it possible to use two torches from one set of regulators. They connect to outlet of regulators or acetylene generator and permit two hoses to be attached. Torches should only be used for alternate operation, and the manifold valve for the torch not in use should be closed when the other torch is operating. Made of high grade brass forging, carefully machined and tested. Weight, 8 ounces each.

NE137 Oxygen manifold, each.....\$4.50

NE138 Acetylene manifold, each..... 4.50

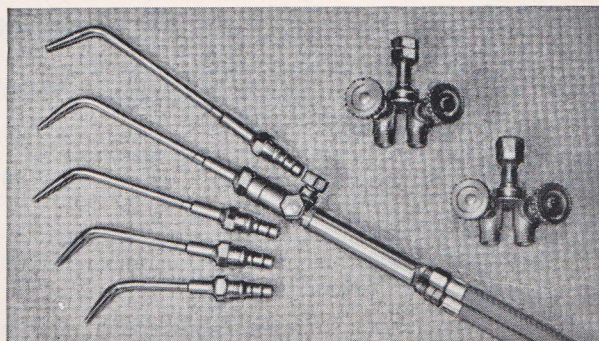
AIRLINE Torch and Manifold Set

Here is a handy new set designed for the man who frequently has use for a small Airline torch to handle light work or weld in places that are hard to get at with the large torch. The set consists of the following:

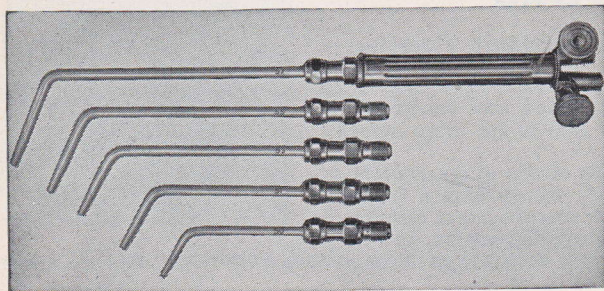
- 1—AS120 Airline torch body with 5 tips
- 1—RA331 25 ft. length 3/16" Twin-Twist hose.
- 1—ea. NE137 and NE138 two hose manifolds

The manifolds connect to regulator outlets and permit hoses for the large and small torches to be attached for alternate use of both torches.

AS130—Airline torch and manifold set complete, each\$50.20



Low-Priced Full-Sized Equipment for Thrifty Buyers



THRIFT-Torch for Welding

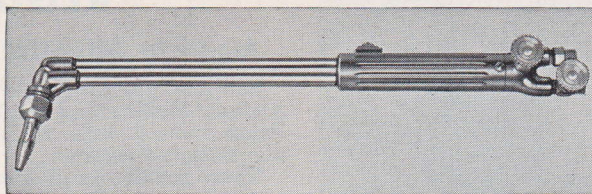
This low priced torch is the same size, approximately the same weight and has the same range of usefulness as the Lifetime torch body listed on Page 17. It does not, however, carry the Lifetime or Lifelong guarantee. All of the welding tips, special purpose tips and the Lifetime cutting assembly listed on Page 17 may be used in the Thrift-Torch body. Because of low initial cost, it is an ideal torch for shops starting out on limited capital.

The "50" series welding tips furnished with the torch set illustrated have long copper section for rapid heat dissipation and a short brass section. They produce bulbous type flames. Standard set includes: Thrift-Torch body, one each welding tips Nos. 50, 51, 53, 55, 57, wrench No. F123, tip cleaners and canvas carrying case.

F1083B Torch with 5 tips, each.....\$28.00
F1076 Torch body only, each.....11.00

"50" SERIES WELDING TIPS

Size	Complete Tip		Copper Section with Nut		Brass Section with Nozzle	
	Stk. No.	Price	Stk. No.	Price	Stk. No.	Price
50	F1077-0	\$3.00	F1079-0	\$1.60	F1078-0	\$1.40
51	F1077-1	3.00	F1079-1	1.60	F1078-1	1.40
52	F1077-2	3.00	F1079-2	1.60	F1078-2	1.40
53	F1077-3	3.00	F1079-3	1.60	F1078-3	1.40
54	F1077-4	3.00	F1079-4	1.60	F1078-4	1.40
55	F1077-5	3.00	F1079-5	1.60	F1078-5	1.40
56	F1077-6	3.00	F1079-6	1.60	F1078-6	1.40
57	F1077-7	3.00	F1079-7	1.60	F1078-7	1.40



THRIFT-Torch for Cutting

Here is a quality torch in the low price class. It is the same size as the Lifetime cutting torches on Page 14 and in it can be used any of the cutting tips listed on Page 15. It does not carry the Lifetime guarantee, but is fully guaranteed against defects in workmanship or material. Supplied only with the button type of oxygen cutting jet control as illustrated, but is obtainable with either 80° or 90° head. 80° head will be supplied unless otherwise specified.

Standard torch set includes: Thrift-Torch for cutting, one each tips Nos. LC1-4, LC2-4, LC3-4, LC4-4, wrench No. N230, Tip cleaners and tip case. Weight, 5 lbs., 8 oz.

Prices

G568B 80° Head torch with 4 tips, cleaners, wrench and tip case, each.....\$49.50
G568 80° Head torch only.....29.50
G567B 90° Head torch with 4 tips, cleaners, wrench and tip case, each.....49.50
G567A 90° Head torch only.....29.50

Any of the oxygen and acetylene hoses listed on Pages 28 and 29 having stock numbers prefixed with the letters "RL" may be used with Smith's Thrift-Torches for welding or cutting



Smith's Cylinder Trucks

Make your Outfit available for use in any part of the shop, plant or garage

A cylinder truck increases the usefulness of your welding and cutting outfit because you can move it from job to job without losing time and without disconnecting torch from cylinders. It protects your equipment—holds cylinders upright—keeps them from tipping over and smashing the regulators.

Sturdy, all welded steel construction. Platform is 10½"x22¼"—large enough to hold a large cylinder of oxygen and acetylene. Chains hold cylinders rigidly in place.

Available with 14" or 30" steel tired wheels, with or without tool box. Truck is also available with 14" semi-pneumatic rubber tired wheels at extra cost. Trucks numbers NE615, NE617 and NE631 have detachable tool box for carrying torch, tips and other accessories. The tool box may be purchased separately for attaching to NE614, NE616 and NE630 trucks.

Specifications and Prices

NE614 Truck with 14" steel wheels without tool box, each.....\$19.50
Weight 44 lbs.

NE615 Truck with 14" steel wheels and with tool box, each.....27.00
Weight 54 lbs.

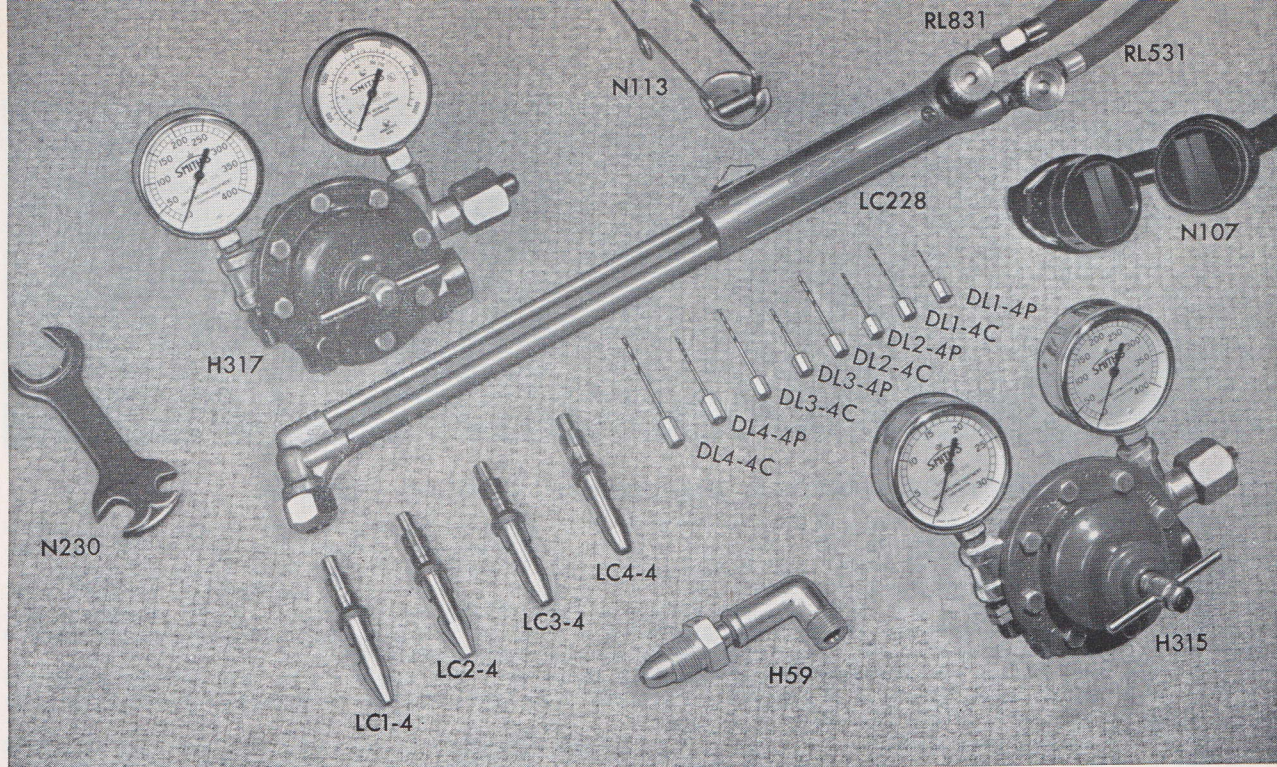
NE616 Truck with 14" semi pneumatic tired wheels without tool box, each.....25.50
Weight 41 lbs.

NE617 Truck with 14" semi pneumatic tired wheels and with tool box, each.....33.00
Weight 51 lbs.

NE630 Truck with 30" steel tired wheels without tool box, each.....24.50
Weight 65 lbs.

NE631 Truck with 30" steel tired wheels and with tool box, each.....32.00
Weight 75 lbs.

NE640 Metal tool box with brackets and bolts.....\$9.00
Weight 6½ lbs.



Smith's Lifetime Heavy Duty Cutting Outfit No. LS368

PRICE COMPLETE, \$146.40

For Heavy, Prolonged Cutting Jobs

This outfit shows up to best advantage on tough cutting jobs. It is used for all types of manual cutting operations in steel mills, shipyards, foundries, scrap iron yards — any place where a torch must give top performance under difficult conditions. The equipment is especially designed to pass oxygen at high pressures and in ample volume required for heavy and continuous cutting. The torch itself is ruggedly constructed to provide maximum trouble-free service.

Many Different Uses

The standard outfit has four cutting tips Nos. LC1-4, LC2-4, LC3-4 and LC4-4 with a range from $\frac{1}{8}$ " to 4" steel. Patented construction features assure fast, economical cuts. Additional tip sizes for heavier cutting are available plus special types for gouging, rivet cutting, scarfing and light metal cutting. See page 15 for complete cutting tip listing.

80° or 90° Angle Heads

Smith's Lifetime cutting torch, included with the outfit illustrated, has 80° angle head and latched button for control of the oxygen cutting jet. Torches with 90° angle head and over lever or under lever cutting jet control are also available. The under lever control is often-times preferred for long cuts because the weight of the torch is sufficient to hold the lever in the open jet position.

BB-2 Regulators Included

Type BB-2 (two-stage) regulators are furnished with the outfit illustrated above because of their ability to accurately maintain the required outlet pressure until the cylinders are nearly empty. For lighter cutting and intermediate jobs, the single stage Type BB regulators do an excellent job. There is a choice of outfits with either type of regulators in the specification list on this page.

Built to Last a Lifetime

The Lifetime Guarantee, which covers the cutting torch, is ample proof that the equipment asks no favors when it comes to hard work. It is your best assurance of superior performance.

Outfit No. LS368 includes the following:

- | | |
|---|---------|
| 1 LC238 Lifetime button type cutting torch with 4 tips, wrench, case and cleaners, price..... | \$59.00 |
| 1 H317—Type BB-2 Oxygen cutting regulator with gauges, price..... | 36.50 |
| 1 H315—Type BB-2 Acetylene regulator with gauges and H59 adapter, price..... | 34.00 |
| 1 Pair N107 goggles, price..... | 2.80 |
| 1 N113 torch lighter, price..... | .40 |
| 1 RL531—25 ft. length $\frac{1}{4}$ " acetylene hose, price..... | 6.10 |
| 1 RL831—25 ft. length $\frac{1}{4}$ " cutting oxygen hose, price | 7.60 |

LS368 Lifetime cutting outfit complete, price.....146.40

LS388 Lifetime cutting outfit less Type H315 Acetylene regulator*, price.....112.40

LS358 Lifetime cutting outfit complete with Type BB regulators, price128.40

LS378 Lifetime cutting outfit, less Type H101J Acetylene regulator*, price.....103.40

LS369 Lifetime cutting outfit complete with BB-2 regulators and 90° head torch, price.....146.40

LS389 Lifetime cutting outfit same as LS369 but less Type BB-2 Acetylene regulator*, price.....112.40

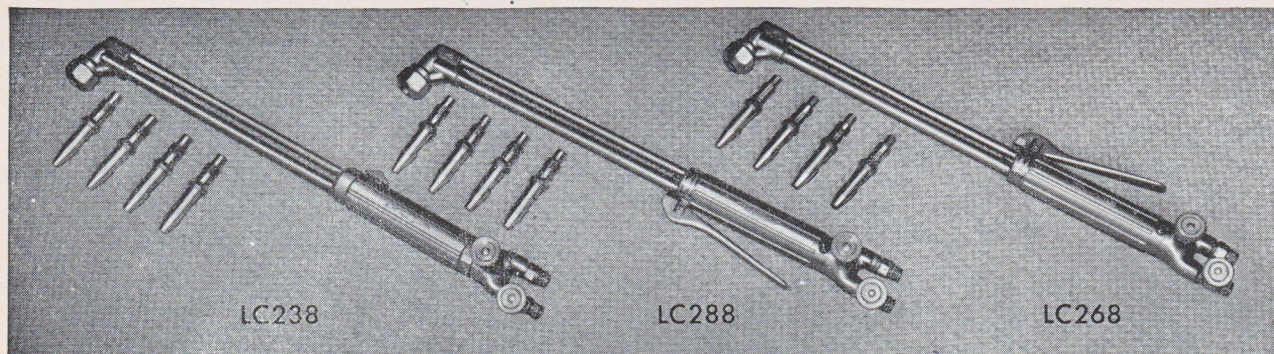
LS359 Lifetime cutting outfit complete with Type BB regulators and 90° head cutting torch, price.....128.40

LS379 Lifetime cutting outfit same as LS359 but less Type BB Acetylene regulator*, price.....103.40

*An Acetylene regulator is not necessary when the outfit is used with an Acetylene generator.

Shipping Weights

Nos. LS368 and LS369.....	34 lbs. each
Nos. LS388 and LS389.....	29 lbs. each
Nos. LS358 and LS359.....	31 lbs. each
Nos. LS378 and LS379.....	26 lbs. each



Smith's Lifetime Guarantee Cutting Torches

Smith's Cutting Torches come in two types (button or lever type) which are identical except for the means of controlling the oxygen cutting jet. The button on torch No. LC238 may be latched in the open position for continuous cuts. Torch No. LC288 has under lever cutting jet control. Torch No. LC268 has lever on top of handle.

These torches are designed for heavy cutting up to 12" or more in thickness but the four tips regularly supplied have a range from 1/8" to 4" steel. A wide variety of tips including those for rivet burning, gouging, scarfing and light metal cutting are also available and are listed on page 15. The particular ability of these torches to withstand intense, reflected heat makes them especially favored for work in confined places.

80° angle head torches are illustrated above, but they come with 90° angle heads too. Unless otherwise specified, the 80° head button type torch is supplied as standard. Both types of torches are fully protected by Smith's Lifetime Guarantee. See Page 1 for details.

Button Type Torches

- LC238** This button type 80° angle head torch is included in outfit No. LS368 as illustrated on Page 13. It is furnished with four cutting tips Nos. LC1-4, LC2-4, LC3-4, LC4-4, Universal wrench, dual tip cleaners and tip case, price complete.....\$59.00
LC228 80° button type cutting torch only, price.....39.00
LC239 90° button type cutting torch with four tips, wrench, cleaners and case, price complete.....59.00
LC229 90° button type cutting torch only, price.....39.00

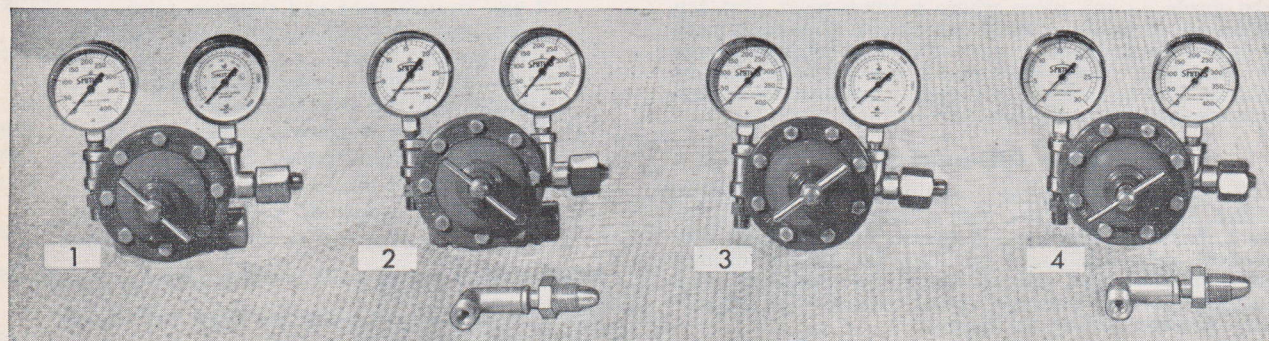
Under Lever Type Torches

- LC288** 80° under lever type cutting torch with four tips Nos. LC1-4, LC2-4, LC3-4, LC4-4, Universal wrench, dual tip cleaners and tip case, price complete\$61.50

- LC278** 80° Under lever type cutting torch only, price.....\$41.50
LC289 90° Under lever type cutting torch with four tips, wrench, cleaners and case, price complete.....61.50
LC279 90° Under lever type cutting torch only, price.....41.50

Over Lever Type Torches

- LC268** 80° Over lever type cutting torch with four tips Nos. LC1-4, LC2-4, LC3-4, LC4-4, Universal wrench, dual tip cleaners and tip case, price complete\$61.50
LC258 80° Over lever type cutting torch only, price.....41.50
LC269 90° Over lever type cutting torch with four tips, wrench, cleaners and case, price complete.....61.50
LC259 90° Over lever type cutting torch only, price.....41.50



REGULATORS Used in Lifetime Cutting Outfits

- (1) **H317** Type BB-2 Oxygen cutting regulator, two-stage, used in cutting outfits Nos. LS368, LS388, LS369, LS389. Green bonnet. Has ample capacity for all types of cutting. Equipped with automatic spring loaded safety relief valve on second stage. Has 2 1/2" 400 lb. and 3000 lb. gauges. Inlet fits standard oxygen cylinder valves. Outlet has 3/8"-18 right-hand male thread which fits nut on R11 and R13D hose connections.

H317 BB-2 Oxygen cutting regulator with gauges, each\$36.50

H316 Regulator without gauges, price each.....27.00

Shipping weight: With gauges 6 3/4 lbs. Without gauges 5 lbs. 6 oz.

- (2) **H315** Type BB-2 Acetylene regulator, two-stage, used in cutting outfits Nos. LS368 and LS369. Red bonnet. Has 2 1/2" 30 lb. and 400 lb. gauges. Inlet fits Airco No. 4 and No. 5 cylinders but H59 adaptor is furnished for use when regulator must be attached to cylinder having female type of outlet valve. Outlet has 3/8"-18 left-hand male thread which fits nut on R12 and R14D hose connections.

H315 BB-2 Acetylene regulator with gauges, each.....\$34.00

H314 BB-2 Acetylene regulator less gauges, each.....27.00

Shipping weight: With gauges 7 1/4 lbs. Without gauges 6 lbs.

- (3) **H102** Type BB Oxygen cutting regulator, single stage, used in cutting outfits Nos. LS358, LS378, LS359 and LS379. Green bonnet. Has 2 1/2" 400 lb. and 3000 lb. gauges. Automatic, spring loaded safety relief valve. Inlet connection fits standard oxygen cylinder valves. Outlet has 3/8"-18 right-hand male thread which fits nut on R11 and R13D hose connections.

H102 BB Oxygen cutting regulator with gauges, each\$27.50

H99 BB Oxygen cutting regulator, less gauges, each18.00

Shipping weight: With gauges 5 1/4 lbs. Without gauges 3 lbs. 14 oz.

- (4) **H101J** Type BB Acetylene regulator, single stage, used in cutting outfits Nos. LS378 and LS379. Red bonnet. Supplied with 30 lb. and 400 lb. 2 1/2" diameter gauges. Inlet fits Airco No. 4 and No. 5 Acetylene cylinders but H59 adaptor is furnished so that regulator may be used on cylinder having female type of outlet valve. Outlet has 3/8"-18 left-hand male thread which fits nut on R12 and R14D hose connections.

H101J BB Acetylene regulator with gauges, each.....\$25.00

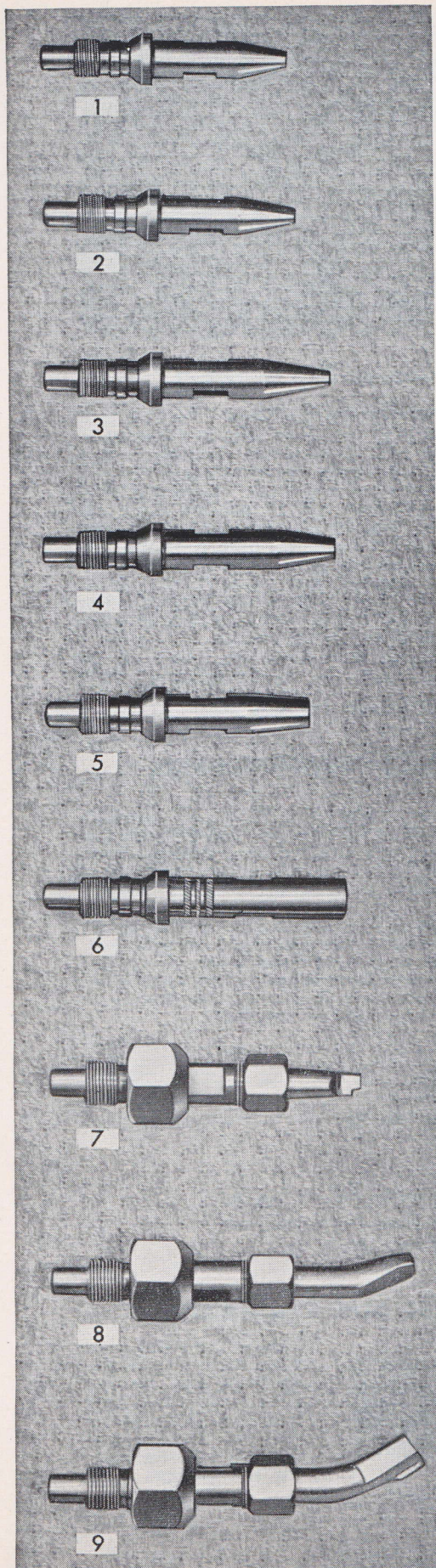
H98 BB Acetylene regulator less gauges, each.....18.00

Shipping weight: With gauges 5 lbs. 6 oz. Without gauges 4 lbs.

Hose Used in Lifetime Cutting Outfits

RL831 25 ft. length, 1/4" three braid oxygen hose, designed for high oxygen pressures. Used in all cutting outfits. Has R11 connections on each end which fit oxygen regulator outlet, and oxygen inlet on Lifetime and Thrift cutting torches and other large torches. Per length\$7.60

RL531 25 ft. length, 1/4" two braid Acetylene hose with R12 connections on each end. Used in all cutting outfits. Fits acetylene regulator outlet, and acetylene inlet connection on Lifetime and Thrift cutting torches and other torches which have 1/4" left hand male hose connection thread. Per length.....\$6.10



CUTTING TIPS for **LIFELONG** and *Lifetime* Cutting Assemblies, *Lifetime* and *Thrifty* Cutting Torches

Smith's cutting tips are most economical in gas consumption. They are swaged of hard-drawn copper by a special process assuring clean, unobstructed gas passages. Lower gas consumption and greatly reduced cost per cut is the direct result.

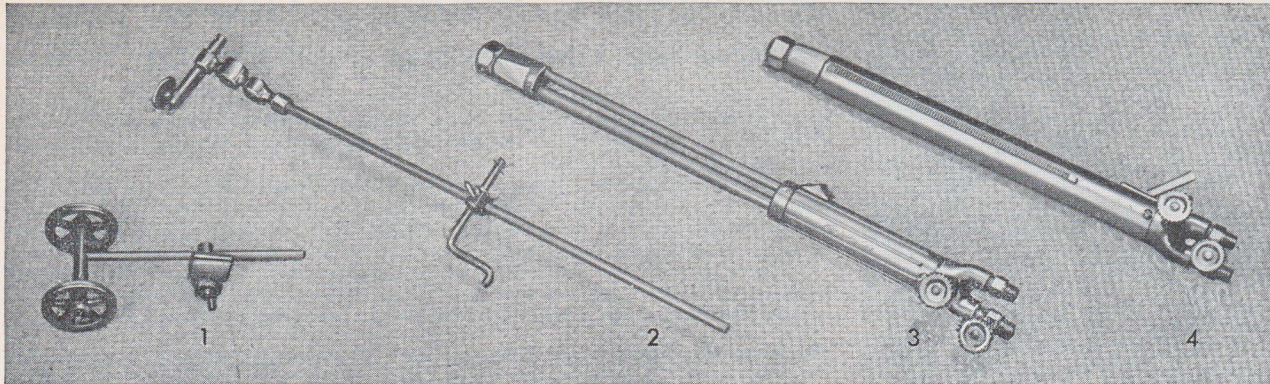
Preheating flames converge toward the center cutting jet so that a smaller area is heated, resulting in faster starting of cuts. The annular orifice in the mixing area makes certain that preheat flames are always of equal length and that gases are properly and thoroughly mixed.

Each tip has one fixed seat which makes contact in the bottom of the head. A movable seat on each tip forms a gas-tight seal with the outer end of the torch head when the head nut is tightened securely.

- (1) **Four Preheat Hole Cutting Tips** For general cutting of steel from $\frac{3}{8}$ " to 4" in thickness. Available in size Nos. LC0-4, LC1-4, LC2-4, LC3-4, LC4-4.
Price each (specify size), average weight $3\frac{3}{4}$ oz.....\$4.00
- (2) **Six Preheat Cutting Tips (Short).** For faster cutting of steel either manually or in cutting machines when Smith's machine type cutting torch is used. Also ideal for cutting dirty or rusty metal. Available in size Nos. LC0-6, LC1-6, LC2-6, LC3-6, LC4-6, LC5-6 and LC6-6, covering a range from $\frac{3}{8}$ " to 12". Use only up to size LC4-6 in cutting assemblies. Tips are $3\frac{5}{8}$ " long.
Price each (specify size), average weight $3\frac{3}{8}$ oz.....\$4.00
- (3) **Six Preheat Hole Cutting Tips (Long)** are the same as the six preheat hole tips above except they are $7\frac{1}{16}$ " longer for greater resistance to heat in heavy or prolonged cutting. Made in size Nos. LC11-6, LC12-6, LC13-6, LC14-6, LC15-6, LC16-6. Range $3\frac{1}{16}$ " to 12". Use only up to size LC14-6 in cutting assembly.
Price each (specify size), average weight 4 oz.....\$4.25
- (4) **Six Preheat Hole Tips for Cutting Cast Iron.** Have extra preheat and cutting jet capacities for cast iron cutting. Available in sizes LC21-6, LC22-6, LC23-6, LC24-6, LC25-6 and LC26-6. Cutting range $\frac{1}{2}$ " to 10". Use only up to LC23-6 in cutting assemblies.
Price each (specify size), average weight 4 oz.....\$4.25
- (5) **Propane Gas Cutting Tips** consume propane or other petroleum derivative gases instead of acetylene and are for general cutting of steel. Made in sizes LC31-0, LC32-0, LC33-0, LC34-0, LC35-0 and LC36-0, covering a cutting range from $\frac{1}{8}$ " to 12". The fuel gas must be delivered to the torch at a pressure of 5 lbs. or more. Use up to size LC34-0 in cutting assemblies.
Price each (specify size), average weight $3\frac{1}{2}$ oz.....\$4.00
- (6) **LC66-0 Scarfing and Rivet Burning Tip** used for removal of rivets, and areas from steel castings or billets containing defects, cracks or imperfections. The cutting oxygen stream expands within the tip and leaves it at relatively low velocity, giving it the "washing" effect necessary for this type of work. Made in one size only, No. LC66-0. Not recommended for use in cutting assemblies.
Price each, Weight 4 oz.....\$5.00
- (7) **Step Type Tips for Cutting Light Gauge Metal** are made in two sizes: No. LC61-0 for cutting 24-ga. to 14-ga. steel and No. LC62-0 for cutting 18-ga. to $\frac{1}{8}$ " steel. Especially designed to make clean, smooth cuts in light gauge metal, with a narrow kerf, at high speeds.
Price, complete tip (specify size), Average weight 5 oz.....\$5.00
LC61-1 replacement tip end and nut for LC61-0, price.....2.50
LC62-1 replacement tip end and nut for LC62-0, price.....2.50
- (8) **Rivet Cutting Tips** are designed to burn the heads off rivets flush with the plate. Particularly useful in boiler repair or remodeling because the rivet head can be quickly removed without injury to the plates. Made in size No. LC51-0 for up to $\frac{1}{2}$ " and No. LC52-0 for up to $\frac{3}{4}$ " rivets.
Price, complete tip (specify size), Average weight 5 oz.....\$5.00
LC51-1 replacement tip end and nut for LC51-0, price.....2.50
LC52-1 replacement tip end and nut for LC52-0, price.....2.50
- (9) **Gouging Tips** used for removal of old welds, veeing out preparatory to welding, groove cutting and gouging of all kinds. Made in three sizes: No. LC41-0 for $\frac{1}{8}$ " to $\frac{1}{4}$ " gouge depths, No. LC42-0 for $\frac{1}{4}$ " to $\frac{3}{8}$ " gouge depths and LC43-0 for $\frac{3}{8}$ " to $\frac{1}{2}$ " gouge depths. Use only No. LC41-0 in cutting assemblies.
Price complete tip (specify size), Average weight 6 oz.....\$11.00
LC41-1 replacement tip end and nut for LC41-0, price.....8.50
LC42-1 replacement tip end and nut for LC42-0, price.....8.50
LC43-1 replacement tip end and nut for LC43-0, price.....8.50

Replacement Parts for Gouging, Rivet Cutting and Step Type Tips

LC41-2 Mixing section for LC41-0, LC51-0, LC52-0, LC61-0, LC62-0. Price.....	\$2.00
LC42-2 Mixing section for LC42-0, LC43-0. Price.....	2.00
G71A Head Nut for rivet cutting, gouging and step type tips. Price.....	.50



Special Purpose Cutting Torches and Accessories for Cutting

(1) Cutting Torch Carriage is used in making long, straight cuts on steel sheets or plates. It is particularly effective when Smith's Step Type cutting tip is used in the torch or cutting assembly. Has $2\frac{1}{4}$ " wheels with machined rims to follow smoothly along a straight edge. Wheels also have $\frac{5}{32}$ " flat groove around the circumference in case a track is used in place of a straight edge. This carriage will fit Smith's Lifelong and Lifetime cutting assemblies, Lifetime and Thrift cutting torches. Weight $1\frac{1}{2}$ lbs.

NE134 Cutting torch carriage, price.....\$6.50

(2) Circle Cutting Attachment is designed for use with all Smith's Cutting torches and cutting assemblies except the Airline, Midline, Aircraft and Autocraft cutting assemblies. It has horizontal and vertical adjustments and can be used to make circular cuts up to 3 ft., $8\frac{1}{2}$ inches in diameter. Position of guide wheel may be changed so that cuts can be made up to the edge of a plate. Weight 2 lbs., 2 oz.

NE148 Circle cutting attachment, price.....\$6.50

(3) Straight Head (180°) Cutting Torches are especially useful on jobs like cutting flues out of boilers or similar work in confined places where an angle head torch could not be used. The torch head is $1\frac{1}{4}$ " at its major diameter and it uses any of the cutting tips shown on Page 15 or the special long cutting tips listed at the right. Torches are available in standard Lifetime button type, over lever and under lever types. Lifelong and Lifetime cutting assemblies are also available with straight head at extra cost.

LC220 Lifetime button type, torch only, price.....\$49.00

LC250 Lifetime over lever type, torch only, price..... 49.00

LC270 Lifetime under lever type, torch only, price.... 49.00

Torches of special length can be made up to customer's specifications. Prices are subject to job costs and such equipment is not returnable.

(4) Machine Type Cutting Torches These are special torches designed for use in most of the popular makes of automatic cutting machines. Available in two hose type, as illustrated, for average cutting and in the three hose type for cutting very heavy plates and bars. Gas inlets on the two hose type fit standard right and left hand $\frac{1}{4}$ " hose connections. The three hose type requires a special $\frac{3}{8}$ " hose for the cutting oxygen jet, one $\frac{1}{4}$ " hose for preheating oxygen and a $\frac{1}{4}$ " hose for acetylene. Torches supplied with either $\frac{1}{4}$ "x $\frac{1}{8}$ "x32 or $\frac{1}{4}$ "x $\frac{1}{4}$ "x24 pitch rack. Be sure to specify rack when ordering. Use four and six hole cutting tips and Propane tips shown on Page 15 with these torches.

LC292 Two hose machine type, torch only, price.....\$55.00

LC293 Three hose machine type, torch only, price.... 70.00

Special Long Cutting Tips



Regularly available in lengths of 6", 9", 12" and 18". Can be used in Smith's Lifelong and Lifetime cutting assemblies, Lifetime and Thrift cutting torches. They are especially useful in straight head torches for cutting out boiler flues or for getting into other hard-to-get-at places.

When required, tips can be bent to any angle up to 90° provided the bend is not closer than $1\frac{1}{2}$ " from outer end. In ordering, use stock number listed below for various stock lengths; give bending instructions, and serial number of torch in which tip is to be used. Regularly supplied only in 6-hole type and in size No. 2.

LC2-6 x 6 (6" length)\$13.50

LC2-6 x 9 (9" length) 20.25

LC2-6 x 12 (12" length)\$27.00

LC2-6 x 18 (18" length) 40.50

Prices for special lengths, types or sizes quoted upon application.

Special equipment or regulators can be supplied to customer's specifications on special order provided they conform to Smith's standard design. Prices are based on material and labor costs and such equipment cannot be returned for credit.

Wrenches for All Welding and Cutting Torches and Regulators



places wrenches Nos. H200 and G122 formerly used with Lifetime equipment.

N230 Universal wrench, price.....\$1.25

F123 Double end wrench for use with Lifetime welding torches (not illustrated), each..... .50

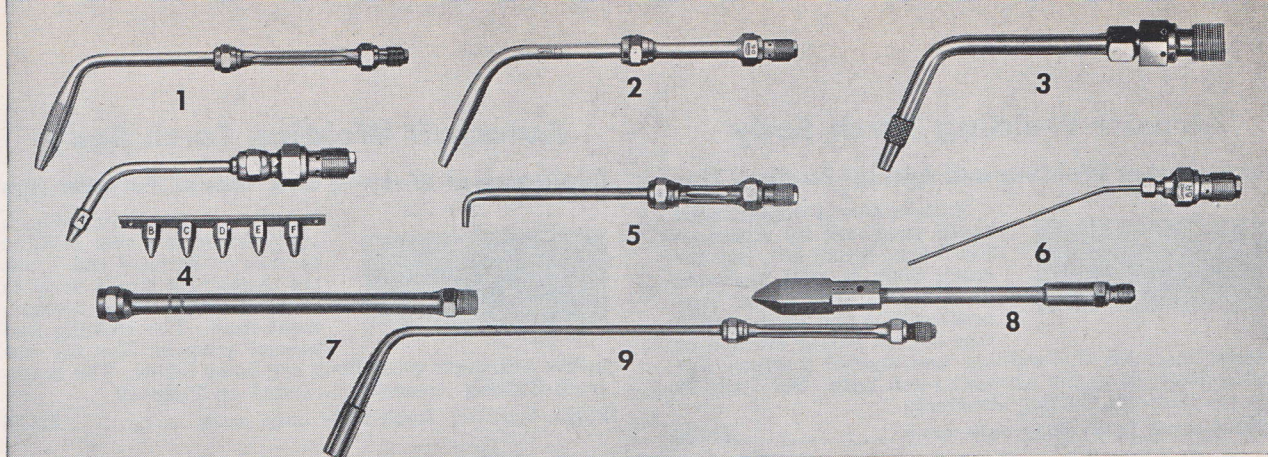
This universal wrench has four openings and is used with Lifelong and Lifetime equipment. It is supplied with all Lifelong and Lifetime welding and cutting outfits and regulators.



N210 Universal wrench for Airline and Midline torches, each\$1.25

F1107 Three opening wrench for use with Aircraft and Autocraft torches (not illustrated), each..... .50

This is also a universal type wrench with five openings and replaces F1107 and H200 wrenches. It is supplied with all Midline and Airline outfits for welding and cutting.



Welding Tips and Special Purpose Tips for Lifetime Torch Body and Thrift Torch Body

(1) "60" and "70" Series Welding Tips

Size	Complete Tip		Copper Section with Nut		Brass Section with Nozzle	
	Stk. No.	Price	Stk. No.	Price	Stk. No.	Price
B60	F761	\$5.30	F700	\$2.65	F730	\$2.65
B61	F762	5.30	F702	2.65	F732	2.65
B62	F764	5.30	F704	2.65	F734	2.65
B63	F766	5.30	F706	2.65	F736	2.65
B64	F768	5.30	F708	2.65	F738	2.65
B65	F770	5.30	F710	2.65	F740	2.65
B66	F772	5.30	F712	2.65	F742	2.65
B67	F774	5.30	F714	2.65	F744	2.65
B68	F776	5.30	F716	2.65	F746	2.65
B69	F778	5.30	F718	2.65	F748	2.65
B610	F780	6.00	F720	3.00	F750	3.00
B611	F782	6.00	F722	3.00	F752	3.00
B612	F784	6.00	F724	3.00	F754	3.00

Size	Complete Tip		Copper Section with Nut		Brass Section with Nozzle	
	Stk. No.	Price	Stk. No.	Price	Stk. No.	Price
70	F1091-0	\$5.30	F1093-0	\$2.65	F730	\$2.65
71	F1091-1	5.30	F1093-1	2.65	F732	2.65
72	F1091-2	5.30	F1093-2	2.65	F734	2.65
73	F1091-3	5.30	F1093-3	2.65	F736	2.65
74	F1091-4	5.30	F1093-4	2.65	F738	2.65
75	F1091-5	5.30	F1093-5	2.65	F740	2.65
76	F1091-6	5.30	F1093-6	2.65	F742	2.65
77	F1091-7	5.30	F1093-7	2.65	F744	2.65
78	F1091-8	5.30	F1093-8	2.65	F746	2.65
79	F1091-9	5.30	F1093-9	2.65	F748	2.65
710	F1091-10	6.00	F1093-10	3.00	F750	3.00
711	F1091-11	6.00	F1093-11	3.00	F752	3.00
712	F1091-12	6.00	F1093-12	3.00	F754	3.00

(2) Pipe and Production Welding Tips.

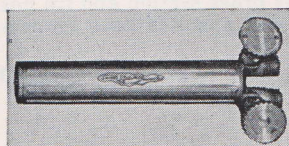
Size	Complete Tip		Copper Section with Nut		Brass Section with Nozzle	
	Stk. No.	Price	Stk. No.	Price	Stk. No.	Price
D5	F1200-5	\$5.30	F1201-5	\$2.65	F1202-5	\$2.65
D6	F1200-6	5.30	F1201-6	2.65	F1202-6	2.65
D7	F1200-7	5.30	F1201-7	2.65	F1202-7	2.65
D8	F1200-8	5.30	F1201-8	2.65	F1202-8	2.65
D9	F1200-9	5.30	F1201-9	2.65	F1202-9	2.65
D10	F1200-10	6.00	F1201-10	3.00	F1202-10	3.00
D11	F1200-11	6.00	F1201-11	3.00	F1202-11	3.00

(3) Soldering Tips. Nos. L227-1, L227-2, L227-3 and L227-4, each\$ 3.50
No. L227-5, price 3.75

(4) F109-Lead Burning Assembly with 6 tip ends and holder, price 5.30
LT101, LT102, LT103, LT104, LT105, LT106 tip ends (same as A, B, C, D, E and F tip ends), each30
LT109 tip end holder, each30
F66 Replacement Brass section 2.30
F18 Replacement Bent section90

(5) Cylinder Welding Tips Nos. 64C, 65C, 66C, 67C and 68C, each 6.00
Replacement Brass sections, each 2.65
Replacement Copper sections, each 3.35

Lifetime Welding Torch Body



Lifetime torches and combination Outfits are no longer catalogued or stocked.

F7G Lifetime Welding Torch Body, only.....\$20.00



No. F123 Wrench

One end fits R11 and R12 hose connection nuts. Other end fits brass section and tip nuts on 50, 60 and 70 series welding tips as well as back end on Lifetime Cutting Assembly, each.....\$0.50

(6) F108 Radiator Tip, price 3.50
F19C Replacement Bent section..... .85
F66A Replacement Brass section..... 2.65

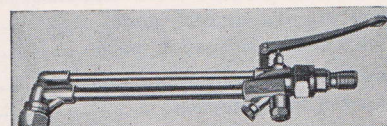
(7) F396 Welding Tip Extension, 9" long, each..... 3.50

(8) L93-0 Soldering Assembly with bit, each..... 7.00
LT302 Replacement 1 lb. bit (same as L100), each..... 3.50

(9) Heating Tips consume oxygen and acetylene gases and provide a large volume of fast, concentrated heat. Tip end has 7 or 9 holes depending on the size.
F269 Heating tip complete, small size, each..... 11.00
F269-1 Copper Bent section, each..... 8.35
F748 Brass section, each..... 2.65
F270 Heating Tip, large size complete, each..... 13.00
F270-1 Copper Bent section, each..... 10.00
F756 Brass section, each 3.00

For data on tip cleaners for welding tips listed on this page, refer to Page 36

Lifetime Cutting Assembly



Smith's Lifetime Guarantee Cutting Assembly uses the same cutting tips as are recommended for use in the Lifelong Cutting Assembly and has the same range. See page 15 for illustrations, description and prices on all cutting tips. Tip cleaner information will be found on Page 36.

This cutting assembly is available with either 80° or 90° angle head and can be used only with the Lifetime torch body listed on this page or the Thrift-Torch body listed on page 12. Use wrench No. N230 (see page 16).

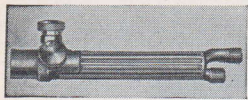
G450B 80° Head Cutting Assembly only, each.....\$24.15

G450C 90° Head Cutting Assembly only, each..... 24.15

NOTE: Any of the oxygen or Acetylene hoses listed on Pages 28 and 29 whose stock numbers start with prefix letters "RL" will fit the Lifetime Torch Body.

Aircraft Welding Torch Body

Replacement Welding and Special Purpose Tips



This is now a discontinued torch (replaced by Airline—See Pages 9 and 10), but the torch body is still available as a replacement item. Aircraft outfits and torches with tips are no longer stocked or catalogued. All the welding and special purpose tips listed below fit in the Aircraft torch body. See Page 19 for the Aircraft Cutting Assembly.

F928 Aircraft Torch Body only, each.....\$10.00

WELDING TIPS Nos. A18 to A210

Size	Complete Tip		Copper Section		Brass Section	
	Stk. No.	Price	Stk. No.	Price	Stk. No.	Price
A18	F1056-000	\$3.00	F1057-000	\$1.50	F972	\$1.50
A19	F1056-00	3.00	F1057-00	1.50	F972	1.50
A20	F1056-0	3.00	F1057-0	1.50	F972	1.50
A21	F1056-1	3.00	F1057-1	1.50	F974	1.50
A22	F1056-2	3.00	F1057-2	1.50	F976	1.50
A23	F1056-3	3.00	F1057-3	1.50	F978	1.50
A24	F1056-4	3.00	F1057-4	1.50	F980	1.50
A25	F1056-5	3.00	F1057-5	1.50	F982	1.50
A26	F1056-6	3.00	F1057-6	1.50	F984	1.50
A27	F1056-7	3.00	F1057-7	1.50	F986	1.50
A28	F1056-8	3.00	F1057-8	1.50	F987	1.50
A29	F1056-9	3.00	F1057-9	1.50	F989	1.50
A210	F1056-10	3.00	F1057-10	1.50	F991	1.50

WELDING TIPS Nos. V20 to V210

Size	Complete Tip		Copper Section		Brass Section	
	Stk. No.	Price	Stk. No.	Price	Stk. No.	Price
V20	F1235-0	\$3.00	F1236-0	\$1.50	F972	\$1.50
V21	F1235-1	3.00	F1236-1	1.50	F974	1.50
V22	F1235-2	3.00	F1236-2	1.50	F976	1.50
V23	F1235-3	3.00	F1236-3	1.50	F978	1.50
V24	F1235-4	3.00	F1236-4	1.50	F980	1.50
V25	F1235-5	3.00	F1236-5	1.50	F982	1.50
V26	F1235-6	3.00	F1236-6	1.50	F984	1.50
V27	F1235-7	3.00	F1236-7	1.50	F986	1.50
V28	F1235-8	3.00	F1236-8	1.50	F987	1.50
V29	F1235-9	3.00	F1236-9	1.50	F989	1.50
V210	F1235-10	3.00	F1236-10	1.50	F991	1.50

Special Purpose Tips

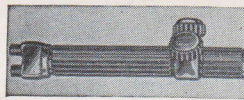
Five special purpose tips for use in the Aircraft torch body are listed below. The numbers refer to those shown on the illustration at top of Page 17, and while the items are not identical to those pictured, they are very similar in appearance.

- (3) **L229-4 Soldering tip**, each\$2.80
- (4) **F1000 Lead Burning Assembly** with 6 tip ends and holder, each 4.50
- Tip ends Nos. LT101, LT102, LT103, LT104, LT105, LT106 (same as A, B, C, D, E, F tip ends), each..... .30
- LT109 Tip end holder, each..... .30
- F972 Replacement brass section, each..... 1.50
- F1000-2 Replacement bent section, each..... .90
- (6) **F1022 Radiator tip**, each..... 2.35
- F972 Replacement brass section..... 1.50
- F19D Replacement tip end85
- (8) **L207 Soldering Assembly** with bit, each..... 6.00
- AT302 Replacement 1 lb. bit (same as L207-1), each..... 3.00
- (9) **F960 Heating Tip** complete, each..... 9.00
- F960-1 Copper bent section, each..... 6.40
- F960-2 Brass section, each..... 2.60

NOTE: Any of the oxygen and acetylene hoses listed on Page 28 whose stock numbers start with the prefix letters "RA" will fit the Aircraft and Autocraft torches.

Autocraft Welding Torch Body

Replacement Welding and Special Purpose Tips



Autocraft torches have been replaced by the new Midline torches on Pages 6 and 7, but the Autocraft torch body is still available as a replacement item. The welding and special purpose tips for use

in the Autocraft torch body are listed below. The Autocraft Cutting Assembly is listed on Page 19.

F1225 Autocraft Torch Body only, each.....\$11.75

WELDING TIPS Nos. L80 to L812

Size	Complete Tip		Copper Section		Brass Section	
	Stk. No.	Price	Stk. No.	Price	Stk. No.	Price
L80	F1111-0	\$4.00	F1110-0	\$2.00	F1109-0	\$2.00
L81	F1111-1	4.00	F1110-1	2.00	F1109-1	2.00
L82	F1111-2	4.00	F1110-2	2.00	F1109-2	2.00
L83	F1111-3	4.00	F1110-3	2.00	F1109-3	2.00
L84	F1111-4	4.00	F1110-4	2.00	F1109-4	2.00
L85	F1111-5	4.00	F1110-5	2.00	F1109-5	2.00
L86	F1111-6	4.00	F1110-6	2.00	F1109-6	2.00
L87	F1111-7	4.00	F1110-7	2.00	F1109-7	2.00
L88	F1111-8	4.00	F1110-8	2.00	F1109-8	2.00
L89	F1111-9	4.00	F1110-9	2.00	F1109-9	2.00
L810	F1111-10	4.50	F1110-10	2.25	F1109-10	2.25
L811	F1111-11	4.50	F1110-11	2.25	F1109-11	2.25
L812	F1111-12	4.50	F1110-12	2.25	F1109-12	2.25

Special Purpose Tips

Four special purpose tips for use in Autocraft torch body are listed below. The numbers refer to those shown on the illustration at top of Page 17. The items are not identical to those pictured, but are very similar in appearance.

- (3) **L228-4 Soldering tip**, each\$3.50
- (4) **F1248 Lead Burning Assembly** with 6 tip ends and holder, each 5.30
- Tip ends Nos. LT101, LT102, LT103, LT104, LT105, LT106 (same as A, B, C, D, E, F), each..... .30
- LT109 Tip end holder, each..... .30
- F1248-1 Replacement brass section, each..... 2.30
- F18 Replacement bent section, each..... .90
- (6) **F1112 Radiator tip**, each 3.15
- F1096-13 Replacement brass section, each..... 2.30
- F19C Replacement tip end..... .85
- (8) **L300 Soldering Assembly** with bit, each..... 6.00
- AT302 Replacement 1 lb. bit (same as L207-1), each..... 3.00

F1107 Wrench for Aircraft and Autocraft Torches

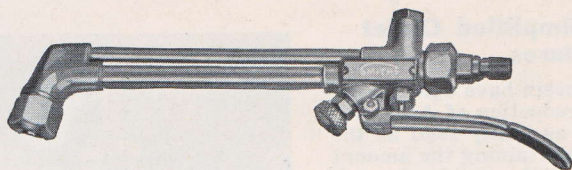


Large opening fits head nut and back end on Aircraft and Autocraft Cutting Assemblies. Small opening fits slot on cutting tips used in these assemblies. Medium size opening fits brass section and tip nut on Aircraft welding tips and R13 and R14 hose connection nuts.

Price, each\$0.50

If you want the newest and best in small torches, see the NEW Airline and Midline torches on Pages 6 and 7, 9 and 10. They are completely different from any torches you've ever used before. Your old torch has a liberal trade-in value which can be applied against the purchase of a new one.

Aircraft Cutting Assembly



This assembly has been replaced by the new Airline cutting assembly (Page 10), but it is still available as a replacement item. Fits only in the Aircraft welding torch body listed on Page 18. Has 80° angle head. Uses F1107 wrench, Page 18.

G550 Aircraft cutting assembly only, each.....\$19.40

Tips for Aircraft and Autocraft Cutting Assemblies



Standard 4-hole cutting tips made in sizes 201-4, 202-4, 203-4 and 204-4.

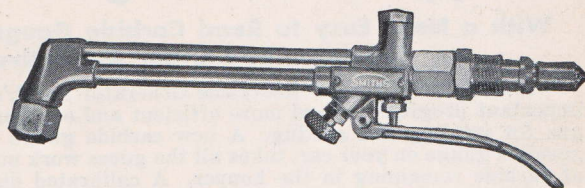
G585 Cutting tips (specify size), each.....\$3.75

G555 Step Type cutting tip for cutting light metal up to 14 gauge, each.....5.00

G556 Step Type cutting tip for cutting light metal up to 1/8", each.....5.00

G563 Rivet cutting tip, each.....5.00

Autocraft Cutting Assembly



This assembly is still available as a replacement item even though it has been replaced by the new Midline cutting assembly (Page 7). It fits only the Autocraft welding torch body listed on Page 18. Has 80° angle head. Uses F1107 wrench, Page 18.

G575 Autocraft cutting assembly only, each.....\$19.40

Cutting Tips for Torches Made Before 1930



Cutting tips Nos. 130-4 to 136-4 inclusive, have four preheating jets and are for cutting steel.

G-100 Cutting Tips (specify size), each.....\$4.50

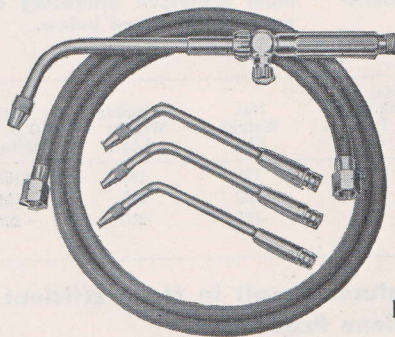
Cutting tips Nos. 151-6 to 156-6 have six preheating jets and are for cutting dirty, rusty or painted steel.

G152 Cutting Tips (specify size), each.....\$4.50

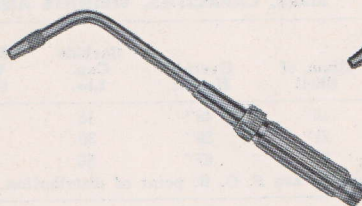
Cutting tips Nos. 151-C1 to 156-C1 inclusive, have six preheating jets and are for cutting cast iron.

G-108 Cutting Tips (specify size), each.....\$4.50

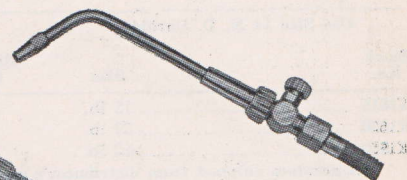
Smith's Acetylene Soldering Torches and Outfits



NE168



NE170



NE190

These are new acetylene soldering torches which operate on the injector principle and burn acetylene in combination with air. Four sizes of tips provide a complete range of heat for soldering copper pipe and fittings; radiator and battery repairs and other types of soldering, light brazing and heating.

Tips slip into head of torch body—changed in an instant. No wrench is needed for a gas tight seat. Tip nut holds tip in place but flexible seal rings prevent leakage of acetylene. Tips use Airline seal rings No. F640-4. One tip nut is supplied with each acetylene soldering kit and is changed with the tip. Tip nut is also supplied with individual torch bodies.

The soldering tip flames have a wide range of adjustment when tips are used in torch bodies Nos. NE160 and NE190.

NE160 and NE190 Torch bodies have needle valve for controlling flow of gas and for flame adjustment. Should be used only when gas is supplied through a regulator.

NE170 Torch body does not have needle valve and may be used with hose attached directly to outlet of Prest-O-Lite cylinder. Hose No. RL115 permits direct connection to "B" size cylinder.

Complete outfits are furnished with torch body, four tips and 6 ft. of 3/16" acetylene hose with proper connections.

Torch With Needle Valve

NE160 Torch Body only with needle valve and tip nut, each.....\$ 4.65

NE167 Torch Body NE160 with 4 tips (less hose), each 12.90

NE168 Acetylene Soldering Outfit consisting of:

NE167 Torch with RL111 hose, each.....14.60

NE161, NE162, NE163 Soldering Tips, each.....2.00

NE164 Soldering Tip, each.....2.25

NE190 Torch Body only (needle valve and torch head without handle tube). Makes an inexpensive soldering torch when used with any of the tips listed above (includes tip nut), each.....2.25

Torch Without Needle Valve

NE170 Torch Body only without needle valve (with tip nut), each.....\$ 2.25

NE177 Torch Body NE170 with 4 tips (less hose), each 10.50

NE178 Acetylene Soldering Outfit consisting of:

NE177 with RL111 hose (for use with regulator), ea. 12.20

NE179 Acetylene Soldering Outfit consisting of:

NE177 torch and RL115 hose, each.....12.90

RL111 6 ft. 3/16" acetylene hose with R14D connections both ends. Used in NE168 and NE178 Outfits.. 1.68

RL115 6 ft. 3/16" acetylene hose with R14D and L47 connections. Used in NE179 Outfit.....2.35

F640-4 Seal rings for NE161, NE162, NE163, NE164, NE165 Tips, each......05

L600-3 Tip nut, each......50

"Type K" Two Stage Portable Acetylene Generator

With a New, Easy to Read Carbide Gauge — Simplified Outlet Regulator and Other Distinctive Features.

In the new "Type K" Acetylene Generator Smith's engineers have again made important progress toward more efficient and economical production of Acetylene gas for welding and cutting. A new carbide gauge that's as easily read as the gasoline gauge on your car, takes all the guess work out of determining the amount of carbide remaining in the hopper. A calibrated dial is plainly visible through a gas tight window, so that at a glance you know exactly what portion of the carbide hopper capacity remains to be used.

Another mighty important new feature is an outlet regulator that removes all pressure fluctuations and delivers acetylene to the torch at perfectly controlled and uniform pressure.

Additional Money Saving Advantages

An automatic, non-mechanical air lift pump completely circulates all water in the generating chamber so that it is of uniform temperature throughout. It eliminates the "hot belt" at the waterline and actually reduces the operating temperature of the generator. It provides 50% greater distance between carbide feed and water level to eliminate the possibility of clogged feeding mechanism.

This combination of advantages produces double "scrubbed" gas that is cool and free of impurities. Maximum flame temperature is the result.

Safe, Efficient Two-Stage Design

Smith's Type K Generator is the carbide to water type. Carbide is held in the hopper and fed into the water below by a large diaphragm mechanism. Acetylene is generated under 13 lbs. pressure and delivered to the torch at a pressure of 11 lbs. The gas passes through the water circulator where it is amply washed and cooled. It then passes into the filter tank (which also serves as a hydraulic back pressure valve), through the outlet regulator and out into the hose. This is a two-stage generator in every sense of the word.

Complete safety is assured by the use of a combination filter tank and hydraulic back pressure valve, an efficient check valve between the filter tank and generating chamber, and an automatic safety relief valve. All three sizes are listed as approved for portable use by Underwriters' Laboratories, Inc., and Factory Mutual Laboratories, and may be operated at double rating as indicated on the name plate.

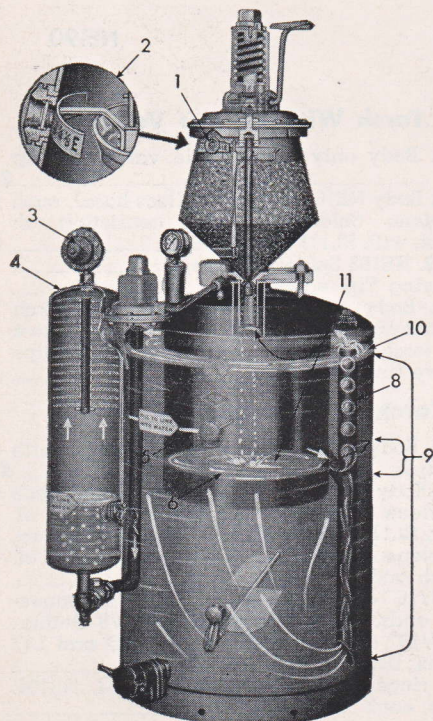


Made in 15, 30 and 50 lb. carbide capacity sizes. Maximum acetylene producing capacities are listed below.

SIZES, CAPACITIES, WEIGHTS AND PRICES

Use Size 14 N. D. Carbide									
Stock No.	Size	Diam. of Shell	Overall Height	Carbide Cap. Lbs.	Water Cap. Gals.	Max. Rated Capacity Per Hr. Cu. ft.	Net Weight Lbs.	Shipping Weight Lbs.	*Price F.O.B. First Destination
K1615	15 lb.	18"	48"	15	17	30	155	195	\$165.00
K1630	30 lb.	21"	58"	30	33	60	170	215	185.00
K1650	50 lb.	24"	67"	50	55	100	185	250	205.00

*Generators shipped from distributor's stocks are F. O. B. point of distribution.



Phantom View

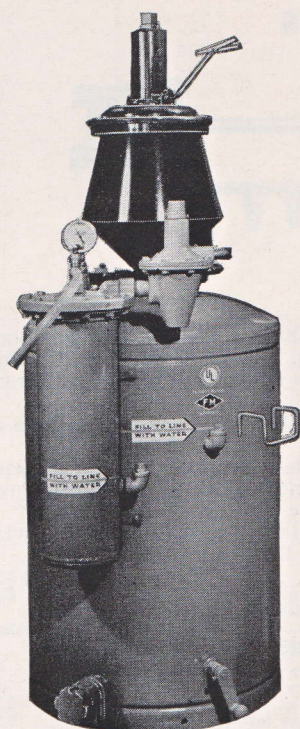
These Exclusive Features Result in More Efficient Acetylene Production.

The phantom view at the left shows how Smith's Type K Generator would look in operation if it were possible to see through the steel shell. You can readily see how important these operation features are to efficient, economical production of acetylene gas.

1. New carbide gauge—as easy to read as the gasoline gauge on your car.
2. Carbide gauge in greater detail
3. Simplified outlet regulator which effectively controls flow of gas to torch.
4. Hydraulic filter tank where acetylene receives its second "scrubbing."
5. Water level when generator is not in operation.
6. Inner chamber water level (operating position).
7. Acetylene outlet from inner chamber to water circulator tube.
8. Water circulator tube incorporating "air lift" principle.
9. Increased radiation surface and elimination of "hot belt" at water level due to action of water circulator. First "scrubbing" of gas here
10. Outer chamber water level (operating position)
11. Fifty per cent greater distance between carbide feed and water level.

A lever on the hopper locks the feeding mechanism so that the generator may be moved from job to job with perfect safety. For long hauls, the carbide hopper can be taken off without the necessity of removing the contents.

To make your generator really portable, get a Smith's generator truck. See page 23 for details.



View of Generator
in Operation

Type D Portable Acetylene Generator

Pure Acetylene at a Fraction of the Cost of Acetylene in Cylinders

For a good many years, Smith's Type D Generators have been profit makers for their owners by constantly producing pure Acetylene gas at a cost of 1/3 to 1/5 that of compressed gas in cylinders. They are completely automatic in operation and require no oiling or other attention except to recharge with carbide and fresh water. Carbide is fed into the water by a diaphragm controlled feed mechanism which is actuated by pressure of the gas. This control is positive and accurate. Generators are pre-set to operate at 13 lbs.

Portable — Safe — Double Rated

You can move this Type D Generator with perfect safety to whatever place Acetylene gas is needed. A locking mechanism, controlled by a lever on the outside of the carbide hopper, makes absolutely certain that no carbide can be fed into the water while the generator is being moved.

Through the use of a diaphragm type safety relief valve, an efficient check valve and a combination filter tank and hydraulic back pressure check, complete operating safety is assured.

Type D is approved by Underwriters' Laboratories, Inc., and Factory Mutual Laboratories for portable use at a double rating. This means that two cubic feet of acetylene per hour can be drawn off for every one pound of carbide the hopper will contain.

A Lasting Investment

Your investment in a Smith's Type D Generator continues to pay dividends and make extra profit for you long after it has paid for itself. Each one is well built, carefully tested and guaranteed to give complete satisfaction with a minimum of care or attention.

Three Sizes Available

Smith's Type D Generator is available in three sizes to meet varying acetylene requirements. The 15 lb. carbide capacity size produces 30 cu. ft. of gas per hour; the 30 lb. size, 60 cu. ft. per hour and the 50 lb. size, 100 cu. ft. per hour. Welding and cutting tip consumption data, found on pages 4 and 36, will help you to select the size best suited to your particular needs.

Specifications and Prices

Stock No.	Size Generator	Size Carbide	Diameter of Shell	Height Overall	Capacity Carbide	Max. Rated Capac. Per Hr. Cu. Ft.	Water Capacity	Net Weight	Shipping Weight	*F.O.B. First Destination
K-815	15-lb.	14 N. D.	18-in.	47-in.	15 lbs.	30	17 gal.	110 lbs.	140 lbs.	\$135.00
K-830	30-lb.	14 N. D.	21-in.	57-in.	30 lbs.	60	33 gal.	119 lbs.	160 lbs.	155.00
K-850	50-lb.	14 N. D.	24-in.	66-in.	50-lbs.	100	55 gal.	145 lbs.	210 lbs.	175.00

*Generators shipped from distributor's stocks are F.O.B. point of distribution.

Your Equipment Is REALLY Portable with SMITH'S GENERATOR TRUCK

A completely different type of truck to make portable acetylene generators REALLY portable. It's made in two sizes—each designed to handle a fully charged portable generator, a 220 or 110 cu. ft. oxygen cylinder plus your welding equipment.

The husky 14" steel tired wheels carry the load smoothly over any type of floor. The over sized casters at the rear, swivel on ball bearings and make steering easy even in crowded quarters. Motorcycle type grips on the handles.

Welded steel construction for strength and permanence. The generator is held in place on the truck base by four J clamping bolts through the vent holes in the skirt at the bottom. It is positioned on the truck so that the drain valve extends over the base for ease in draining. Low center of gravity makes it extremely difficult for truck to be tipped over accidentally.

Specifications

Smith's Generator Truck is available in two sizes to fit all types and sizes of Smith's Portable Generators. The platform on the smaller size, No. NE815, is 26 7/8" long by 21 1/4" wide and is designed to fit 15 lb. and 30 lb. Type K, Type D and Type J generators.

The platform on the larger size, No. NE850, is 28 7/8" long by 24 1/4" wide and is designed to fit 30 lb. and 50 lb. Type K, Type D and Type J Generators.

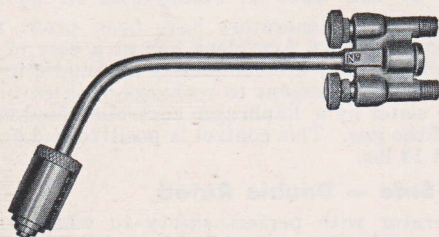
NE815 Generator Truck 15-30 lb. size (weight 58 lbs.), each\$45.00

NE850 Generator Truck, 30-50 lb. size (weight 63 lbs), each 50.00



NE815 Generator Truck

Smith's Special Usage Torches

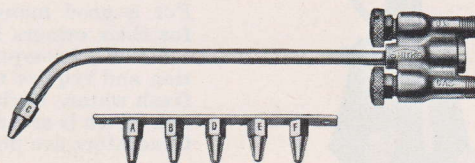


Radiator and Soldering Torch This small, handy torch produces the type of flame required for all different kinds of radiator repair work and soldering. The flame can be adjusted to a fine point for working in confined places or out to a brush type when larger areas are to be heated. Tips are available for use with a variety of fuel gases and compressed air.

Tip No. NE121 consumes compressed air with acetylene or hydrogen. Tips Nos. NE122, NE123 and NE124 consume compressed air with manufactured or natural gas.

The flame clings to end of tip and does not readily blow out.

NE120 Torch only, each.....	\$ 6.75
NE125 Torch with one tip (NE121, NE122, NE123, specify size) less hose, each.....	9.75
NE126 Torch with one tip as above and hose RA111 and RA211, each.....	13.10
NE121, NE122, NE123 Torch tips only, each.....	3.00
NE124 Torch tip only, each.....	4.25



Lead Burning Torches These are small torches made especially for lead burning, battery work, light brazing or soldering. Made in two types for use with different gases.

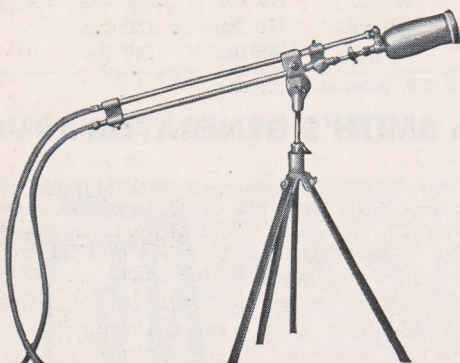
Torch No. NE140 uses either oxygen and acetylene or oxygen and hydrogen.

Torch No. NE150 uses manufactured or natural gases and oxygen. Fuel gases must be supplied to the torch at pressure of 4 oz. or more and not above 10 lbs.

Torches are supplied with 6 tip ends and hose, with 6 tip ends less hose or just the torch alone.

NE140 Torch only, each.....	\$ 6.75
NE141 Torch with 6 tip ends, less hose, each.....	8.85
NE143 Torch with 6 tip ends and hose Nos. RA111 and RA211, each.....	12.20
LT101, LT102, LT103, LT104, LT105, LT106 Tip ends only for torch NE140, each.....	.30
LT109 Tip end holder, each.....	.30
NE150 Torch only, each.....	6.75
NE157 Torch with 6 tip ends, less hose, each.....	8.85
NE158 Torch with 6 tip ends and hose Nos. RA111 and RA211, each.....	12.20
NE151, NE152, NE153, NE154, NE155, NE156 Tip ends only for torch NE150, each.....	.30

Preheating Torch for Volume Heating at Low Cost



Preheating Torch Designed to produce large volume heat at low cost for preheating heavy castings, cylinder heads and blocks. It burns kerosene, distillate or waste crank case oil mixed with kerosene. Uses compressed air and produces a hot flame which may be

varied from a few inches in length to several feet.

Petroleum by-product gases (natural or bottle gas) may also be used as fuel in place of oil or kerosene. Gas must be supplied at 15 lbs. pressure with air pressure at minimum of 80 lbs.

Made in three sizes for varying heat requirements. Torch No. NE201 is recommended for average preheating in garage work.

NE200 Preheating torch only for light duty heating, each.....	\$22.50
NE210 Preheating torch NE200 with hose, less stand, each.....	27.85
NE220 Preheating torch NE200 with hose and stand, each.....	34.60
NE201 Preheating torch only for average heating, each.....	22.50
NE211 Preheating torch NE201 with hose, less stand, each.....	27.85
NE221 Preheating torch NE201 with hose and stand, each.....	34.60
NE202 Preheating torch only for heavy heating, each.....	22.50
NE212 Preheating torch NE202 with hose, less stand, each.....	27.85
NE222 Preheating torch NE202 with hose and stand, each.....	34.60
NE213 6 ft. length special oil hose with connection, each.....	2.00
NE214 12 ft. length 1/4" air hose with 2 connections, each.....	3.35
NE215 Adjustable stand for all preheating torches, each.....	6.75
NE216 Right angle bowl for NE200 and NE201 torches, each.....	3.50

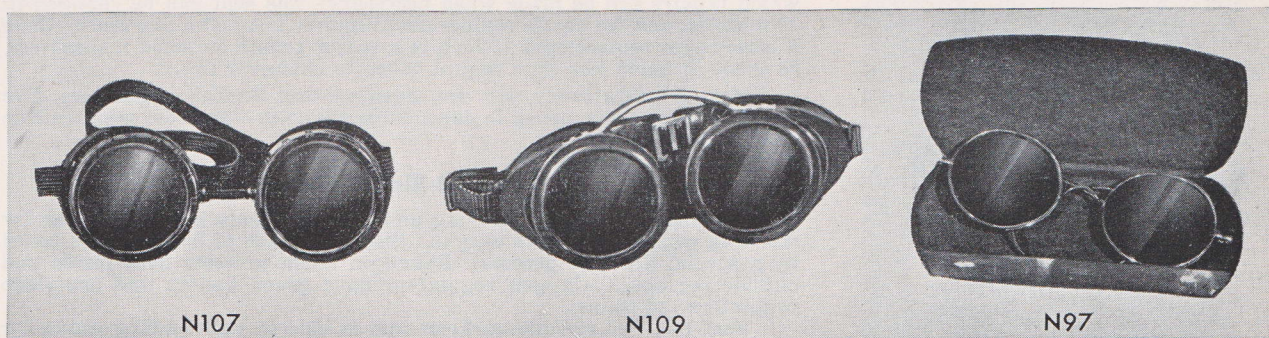
TRY YOUR SMITH'S DISTRIBUTOR FIRST

Your Authorized Smith's Distributor is well equipped to take care of all your welding equipment and supply requirements. His stocks are complete and up to date. In addition to Smith's equipment and supplies, your distributor also carries in stock practically any item you need to conduct your business. Try your Smith's distributor first.

DID YOU KNOW

- that you don't need a wrench to seat a welding tip or cutting assembly in Smith's Lifelong, Midline or Airline torch bodies?
- that the Flo-Trol feature in Smith's new cutting assemblies eliminates 90% of the trouble found in cutting assemblies of conventional design?
- that a Smith's Type K or Type D generator produces pure acetylene at about one-third the cost of compressed acetylene in cylinders?
- that a Smith's Lite-O-Matic torch will pay for itself in gas saving?

PROTECT YOUR EYES! Wear Goggles Whenever You Weld or Cut



N107

N109

N97

N107 Goggles

Here is a pair of goggles that give real eye protection at moderate cost. Fitted with 50MM Federal specification green lenses which filter out the harmful infra-red and ultra-violet rays of the oxy-acetylene flame. Colored lenses are protected by clear cover lenses. Eye cups are moulded of strong, light weight plastic with rounded edges to fit the contour of the face.

Adequate ventilation is assured by a series of vanes behind the lens, yet there is no danger of foreign particles, or unfiltered light entering the eyecup. Adjustable ball chain nose bridge allows instant adjustment. One piece, adjustable elastic head band.

Available in No. 5 (light), No. 6 (medium) or No. 8 (dark) shade lenses.

Specify shade when ordering. Shipping weight, 5 oz.
N107 Goggles with colored and clear lenses, per pair..\$2.80

N109 Goggles

A fine pair of moulded plastic goggles especially designed for welders who must wear prescription spectacles while welding or cutting. These goggles offer complete eye protection and at the same time, protect the prescription lenses in your glasses from pitting and breakage. The 50MM Federal Specification green lenses filter out harmful light rays and are protected by clear cover lenses. Metal bridge across the nose piece makes it possible to raise or lower the goggles with one hand.

Shielded ventilation provides for adequate air flow and eliminates danger of foreign particles or unfiltered light rays from entering eye cups. Supplied with adjustable, one piece elastic head band. Available with lenses of the following shades: No. 5 (light), No. 6 (medium) or No. 8 (dark). Specify shade desired. Shipping weight, 5¼ oz.

N109 Goggles with colored and clear lenses, per pair..\$3.15

Smith's Torch Lighter



A dependable lighter that saves time and gas. The large shield collects gas from the tip and assures instant lighting. Large, long-lasting flint gives a hot spark for lighting any kind of gas flame. Revolving file will last for years.

N113 Lighter with one flint, each.....\$0.40
N113-3 Extra flints, per box of six......60

Oxy-Acetylene Welding and Cutting By Plumley

A practical instruction book on oxy-acetylene welding and cutting written in everyday language. Originally written by Mr. Stuart Plumley, but now completely revised and modernized by Mr. T. B. Jefferson, a well known authority on welding.

The book is arranged in lesson form and can be used in schools and colleges as a practical teaching aid. It is profusely illustrated and contains instructions for handling practically any welding or cutting job that the average welder is likely to encounter.

N114 Book "Oxy-Acetylene welding and cutting," ea. \$7.50

N97 Spectacles

These spectacles afford only minimum protection and should be used only for light brazing, lead burning, furnace observing, glass working. Not recommended for welding or cutting. Rust proof frames with non replaceable light shade lenses only.

N97 Spectacles with case, per pair.....\$1.40

Federal Specification Lenses

No. 5 Shade For light oxy-acetylene welding and cutting

No. 6 Shade For medium oxy-acetylene welding

No. 8 Shade For heavy oxy-acetylene welding

N107-5 Light shade, N107-6 medium shade or N107-8 dark shade green lenses, per pair.....\$1.25

50MM Commercial Grade Lenses for N107 and N109 Goggles

These lenses do not conform to Federal Specification standards, but the protection offered is considered adequate for intermittent welding or cutting.

N106-5 Light shade, N106-6 medium shade or N106-8 dark shade green lenses, per pair.....\$1.00

Clear Cover Lenses, 50MM

The N107 and N109 goggles listed on this page are equipped with plain clear lenses when shipped. After a certain amount of use, the clear lenses become pitted and should be replaced with one of the types listed below. The spatter proof type has 8 to 10 times the life of the plain type and thus are a better value.

N107-1 Plain clear lenses, per pair.....\$0.20
N107-2 Spatter proof clear lenses, per pair......50
N107-3 Elastic headband, each......35

N110 Eye Shield



For oxy-acetylene welding and cutting operations. Not intended for use when arc welding. Entirely supported by headgear, without touching the face. Has two face-distance adjustments with sliding, flexible headgear.

Lens holder is made from a special oil and heat resisting rubber compound. Lenses are changed from the front. Equipped with N110-5, 2"x4¼" colored lens and E125-1 clear lens. May be worn over regular spectacles if desired. Weight, complete with colored and clear lens—8 oz.

N110 Eye shield, each\$5.00
N110-5 (light shade), N110-6 (medium shade), or
N110-8 (dark shade), lens only, each (specify shade) 1.25
E125-1 Plain clear cover lens, each......10
E125-2 Spatter-proof clear lens, each......25

SMITH'S REGULATORS for Welding and Cutting

Smith's Type BB and Type BB-2 regulators are widely preferred for their accurate pressure control, trouble-free service and for the ease with which repairs can be made when necessary. The seat can be changed in 10 minutes, and the nozzle replacement requires but just a few more. Even a diaphragm replacement (which is a major repair on some makes) can be made in much less time than it takes to change a tire.

More welders every day are learning that Smith's regulators give them more for their money in dependable accuracy—low cost maintenance and longer life.

Type BB-Single Stage

Designed for general welding and cutting. Body is forged brass for strength without excessive weight. Bonnet is made of heavy gauge metal by a special drawing process. Baked on finish protects both inside and outside surfaces. Oxygen regulators have green bonnet and acetylene regulators red bonnet.

Seat has two useable surfaces and is held in ball bearing guide for frictionless movement and proper alignment with nozzle. Nozzle is made of wear resistant metal and provided with fine mesh screens which keep out foreign materials and dissipate heat of compression generated when a full tank is opened too fast. Diaphragms are made of reinforced, vulcanized fabric—sensitive, durable and easy to replace.

Oxygen regulators have spring loaded safety relief valve which automatically releases any excess pressure which might be built up accidentally within the regulator.

H100 — BB Oxygen Welding Regulator. Handles all types of welding and medium cutting. Equipped with 2½" 200 lb. and 3,000 lb. gauges. Inlet fits standard oxygen cylinder valves. Outlet has 9/16"-18 right hand male thread which fits the nut on R11 and R13D hose connections. Weight: With gauges 5¼ lbs. Without gauges 3¼ lbs.

H100 BB Oxygen regulator with gauges, each.....\$27.50

H100C BB Oxygen regulator with 60 lb. and 3000 lb. gauges. Used in Airline Outfits, each.....27.50

H97 BB Oxygen regulator less gauges, each.....18.00

H102 — BB Oxygen Cutting Regulator. For heavy welding and cutting. Has 2½" dia. 400 lb. and 3,000 lb. gauges. Same inlet and outlet connections as on H100 regulator above. Weight: With gauges 5¼ lbs. Without gauges 3¼ lbs. (Illustrated on page 25.)

H102 BB Oxygen Cutting regulator with gauges, each.....\$27.50

H99 BB Oxygen Cutting regulator less gauges, each.....18.00

H101J — BB Acetylene Regulator. For all welding and cutting. May also be used with natural gas in cylinders when it is used as a fuel gas in the place of acetylene. 2½" dia. 30 lb. and 400 lb. gauges. Inlet connection fits No. 4 and No. 5 Airco cylinder valves, but H59 adaptor is furnished for use on cylinders having female type of valve. Outlet has 9/16"-18 left hand male thread to fit nut on R12 and R14D hose connections. Weight: With gauges 5½ lbs. Without gauges 4 lbs.

H101J BB Acetylene regulator with gauges, each.....\$25.00

Type BB-2 Two Stage

Smith's Two Stage regulators soften the sharp drop from high cylinder pressure down to the required working pressure and smooth out the fluctuations. The first stage acts as the "cushion" and its pressure range is preset at the factory. The second stage can be set at the desired working pressure by turning the adjusting screw.

These regulators are used for all types of welding and cutting particularly when constant, unvarying flame adjustment is desired as in hard facing and many alloy welding applications.

Construction features are very similar to the single stage Type BB and many of the second stage parts are interchangeable. The forged brass body is only sufficiently larger to accommodate the necessary first stage mechanism. Heavy gauge drawn bonnet—reversible seats—sensitive diaphragms—wear resistant nozzles—frictionless ball bearing seat alignment—all are features common to both Type BB-2 and Type BB. All parts are easily replaceable.

H313 — BB-2 Oxygen Welding Regulator. For all welding and medium heavy cutting. Has 2½" dia. 200 lb. and 3,000 lb. gauges. Same inlet and outlet connections as on Type BB oxygen regulators above. Weight: With gauges 6¾ lbs. Without gauges 5½ lbs.

H313 BB-2 Oxygen welding regulator with gauges, each.....\$33.50

H312 BB-2 Oxygen welding regulator less gauges, each.....27.00

H317 — BB-2 Oxygen Cutting Regulator. For heavy welding and cutting. Has 2½" dia. 400 lb. and 3,000 lb. gauges. Inlet and outlet connections fit same as Type BB oxygen regulators above. Weight: With gauges 6¾ lbs. Without gauges 5½ lbs. (Illustrated on page 25.)

H317 BB-2 Oxygen cutting regulator with gauges, each.....\$36.50

H316 BB-2 Oxygen cutting regulator less gauges, each.....27.00

H315 — BB-2 Acetylene Regulator. For all welding and cutting. Has 2½" 30 lb. and 400 lb. gauges. Same inlet and outlet connections and inlet adaptor as on Type BB Acetylene regulator above. Weight: With gauges 7¼ lbs. Without gauges 6 lbs.

H315 BB-2 Acetylene regulator with gauges, each.....\$34.00

H100

H101J

H313

H315

Smith's Special Duty Regulators

H103 — BB Hydrogen Regulator. This is a single stage regulator for controlling the flow of hydrogen gas from cylinders and is also used with oil pumped nitrogen gas in cylinders. Same general construction as Type BB oxygen and acetylene regulators shown on opposite page. Equipped with 30 lb. and 3,000 lb. 2½" dia. gauges. Outlet has standard 9/16"-18 left hand male thread which fits nut on R12 and R14D hose connections.

Since there are a number of different cylinder connections in common use, it is necessary that complete specifications for type and size of inlet connection be furnished at time of order. Weight 5¼ lbs.

H103 BB Hydrogen regulator with gauges, each.....\$27.50

H319 — BB-2 Hydrogen Regulator. This regulator reduces from cylinder pressure to selected working pressure in two stages. Used in aluminum welding and other applications of the oxy-hydrogen flame where greatest accuracy of pressure and flow control is necessary. Has same gauges and same outlet connection as Type BB hydrogen regulator above. Always give complete specifications and size of inlet connection when ordering. Weight 6¾ lbs.

H319 BB-2 Hydrogen regulator with gauges, each.....\$36.50

H102C — BB Master Oxygen Regulator. Smith's Master Regulator has been designed to control oxygen or air at pressures greater than those normally used for welding or cutting. This regulator should be used with multiple cylinder oxygen manifolds (Page 37) when the desired pressure is greater than can be handled with H102 Oxygen Cutting Regulator. Also recommended for other work requiring accurate gas control at outlet pressure up to 1,000 psi.

The basic design is the same as Smith's type BB single stage regulators shown on Page 24, except that the Master Regulator has special high pressure mechanism, extra heavy brass bonnet, heavy forged bronze body, and special adjusting screw. Equipped with 1,500 lb. and 3,000 lb. 2½" diameter gauges.

Inlet fits standard oxygen cylinder valves. Outlet has standard 9/16"-18 right hand male thread. Weight 9¾ lbs.

H102C Master oxygen regulator with gauges.....\$46.50

Smith's Type BB-P Line Regulators. These single stage regulators are designed for use with relatively low inlet pressures on oxygen and fuel gas distribution pipe lines. A line regulator should always be used at any point that gas is withdrawn from such a pipe line. One 2½" gauge is supplied and this registers the selected working pressure.

All line regulators are similar in appearance to the H517 illustrated at lower right. The BB-P Acetylene Line Regulator can also be used where petroleum by-product gases are used for fuel gas at a pressure of 10 lbs. or more. To be used on pipe lines only—not on cylinders.

H501A — BB-P Oxygen Welding Line Regulator. For use on oxygen pipe line at welding stations. Has 2½" 60 lb. gauge. Supplied with inlet adaptor No. H998-1 which screws into ½" supply pipe. Outlet has standard 9/16"-18 right hand male thread. Weight with gauge 5¼ lbs.

H501A Oxygen welding line regulator with gauge, each.....\$21.50

H517 — BB-P Oxygen Cutting Line Regulator. This regulator has extra volume and pressure capacity for use on oxygen pipe lines at cutting stations. 2½" dia. 400 lb. working pressure gauge. Inlet adaptor No. H998-1 screws into ½" supply pipe. Outlet has standard 9/16"-18 right hand male thread. Weight with gauge 5¼ lbs.

H517 BB-P Oxygen cutting line regulator with gauge, each.....\$21.50

H541 — BB-P Acetylene Line Regulator. The mechanism of this regulator is especially designed to give accurate flow control when difference between inlet and outlet pressures is only a few pounds. For use on acetylene (or other fuel gas) pipe lines and at the outlet of single stage portable acetylene generators. Has 30 lbs. 2½" working pressure gauge. Inlet adaptor No. H560 screws into ½" supply line. Outlet has standard 9/16"-18 left hand male thread. Weight with gauge 5¼ lbs.

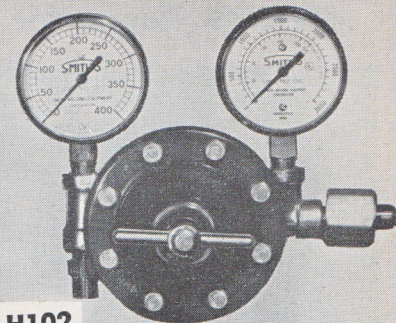
H541 BB-P Acetylene line regulator with gauge, each.....\$21.50

H548 — BB-P Compressed Air Line Regulator. Designed for use with spray guns or air tools which require compressed air at uniform pressures. At 100 lbs. inlet pressure and 60 lbs. maximum working pressure, regulator delivers 950 cu. ft. of air per hour through a port ¼" dia. x 1¼" long, exhausting to the atmosphere. Working pressure and volume may be increased by raising inlet pressure. Has 200 lb. 2½" dia. gauge. Inlet has ¼" female pipe thread. Outlet has standard 9/16"-18 right hand male thread. Weight with gauge 5 lbs.

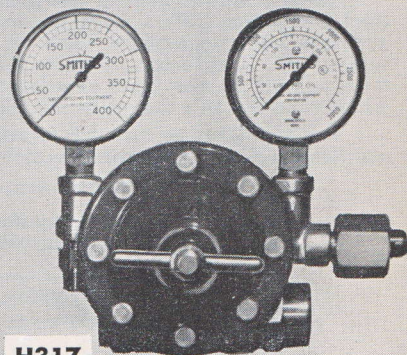
H548 BB-P Air regulator with gauge.....\$20.50

Oxygen Relief Valve. Used with oxygen manifolds and automatically relieves excessive pressures. Similar to BB-P regulators in appearance except it has no gauge. Inlet and Outlet have ½" female pipe thread. Weight 3½ lbs.

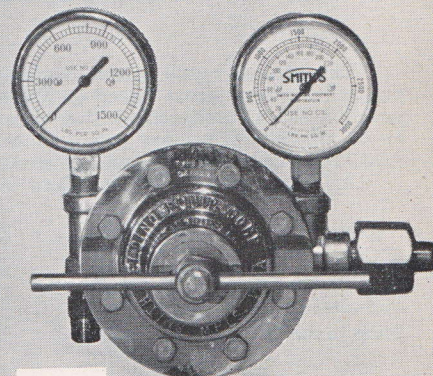
H565 Oxygen relief valve, each.....\$18.00



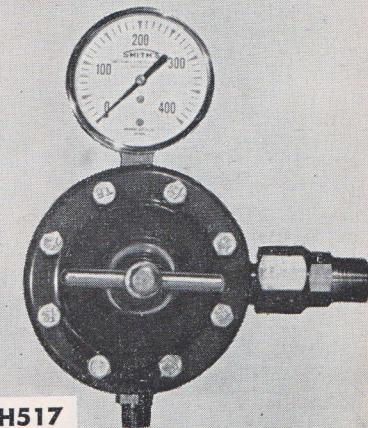
H102



H317

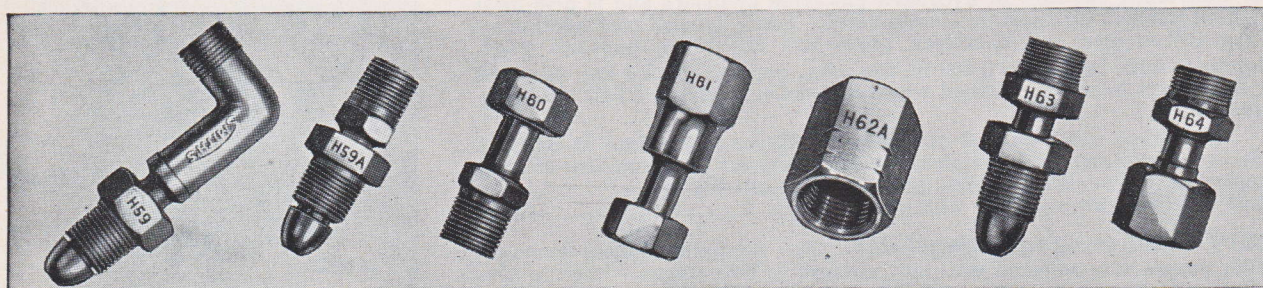


H102C



H517

SMITH'S Regulator Adaptors—Pressure Gauges and Needle Valves



Regulator Adaptors

These adaptors are for the purpose of connecting acetylene regulators to acetylene cylinders when the regulator inlet connection differs from the outlet on the cylinder valve. Smith's Acetylene regulators are furnished as standard with inlet connections which fit Airco No. 4 and No. 5 size welding cylinders. However, when they are to be used on P.O.L. cylinders, adaptor H59, which is supplied without charge, should be used. Adaptor No. H59A is used with a Smith's Acetylene regulator when it is to be connected to NCG cylinders. Adaptor No. H59 is also used when your Smith's acetylene regulator is used on cylinders containing petroleum by-product gases.

For regulator to cylinder attachments which adaptors H59 and H59A will not accommodate, additional adaptors are listed below. Adaptor selection is easy if you know the type of cylinder your regulator fits.

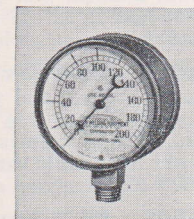
If Regulator Fits Cylinder Listed Below—	Use Adaptor No.	To Connect to Cylinder Listed Below	Price Each
Airco Cylinder.....	H59.....	Prest-O-Lite.....	\$2.25
Airco Cylinder.....	H59A.....	NCG.....	2.25
Airco Cylinder.....	H60.....	Auto-Lite.....	2.25
Prest-O-Lite Cylinder.....	H61.....	Auto-Lite.....	2.25
Prest-O-Lite Cylinder.....	H62A.....	Airco.....	1.50
Auto-Lite Cylinder.....	H63.....	Prest-O-Lite.....	2.25
Auto-Lite Cylinder.....	H64.....	Airco.....	2.25

Regulator Pressure Gauges

The gauges listed below are used on Smith's currently manufactured oxygen, acetylene, hydrogen, line and compressed air regulators listed on Pages 24 and 25. All have heavy brass cases and the construction is as rugged as possible for an instrument that must give accurate pressure readings. The H70J and H71B gauges have safety backs which will release pressure in the event of a leak in the bourdon tube or soldered high pressure joints. 3,000 lb. gauge (H71B) shows contents as well as pressure in oxygen cylinders.

All gauges have 1/4" standard male pipe thread on inlet.

Stock No.	H-67K	H-68A	H-69B	H-70D	H-70J	H-71B
Pressure.....	30 lbs.	60 lbs.	200 lbs.	400 lbs.	1,500 lbs.	3,000 lbs.
Graduations.....	1 lb.	2 lbs.	5 lbs.	10 lbs.	25 lbs.	50 lbs.
Diameter.....	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Price, each.....	\$3.50	\$3.50	\$3.50	\$3.50	\$6.00	\$6.00



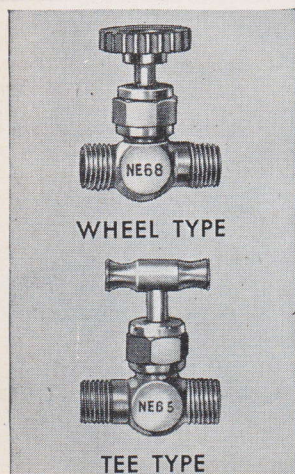
Replacement Gauge Glasses

	Price
H-72A—Beveled Glass for 2 1/4" Diam. Gauge	50c
H-72B—Plain Glass for 2 1/4" Diam. Gauge	25c
H-73 —Beveled Glass for 2 1/2" Diam. Gauge	50c

H-73A—Plain Glass for 2 1/2" Diam. Gauge	25c
H-77 —Plain Glass for 1 1/2" Diam. Gauge	25c
H-77A—Beveled Glass for 1 1/2" Diam. Gauge	50c

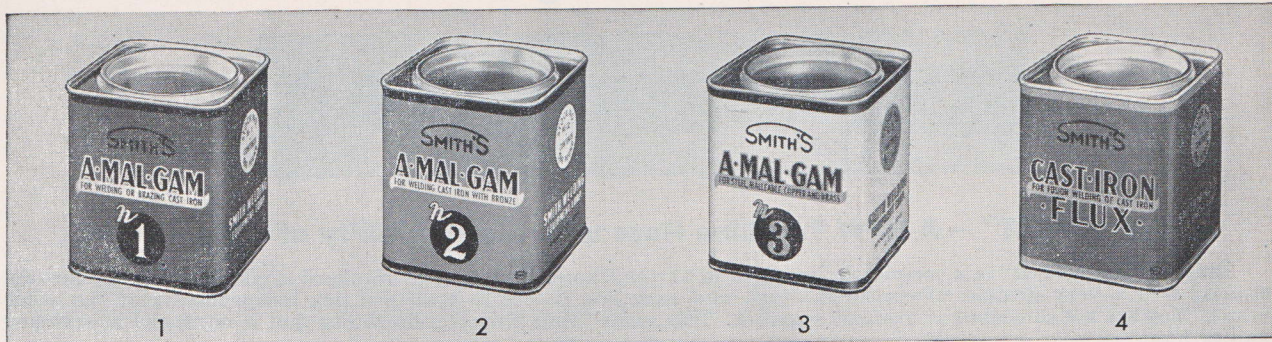
Needle Valves

Smith's Needle Valves are designed to make positive shut off when used with various gases at pressures normally encountered in welding and cutting. Available in either wheel handle or the tee handle types as illustrated. Made of forged brass, carefully machined and tested. These valves should always be used so that the highest pressure enters the inlet side.



No.	Handle Type	Thread on Inlet	Thread on Outlet	Price
NE60.....	Tee.....	Fits connection R11.....	1/4-inch pipe.....	\$2.00
NE61.....	Tee.....	Fits connection R12.....	1/4-inch pipe.....	2.00
NE63.....	Wheel.....	Fits connection R11.....	1/4-inch pipe.....	2.00
NE64.....	Wheel.....	Fits connection R12.....	1/4-inch pipe.....	2.00
NE65.....	Tee.....	1/4-inch pipe.....	Fits connection R11.....	2.00
NE66.....	Tee.....	1/4-inch pipe.....	Fits connection R12.....	2.00
NE67.....	Wheel.....	1/4-inch pipe.....	Fits connection R11.....	2.00
NE68.....	Wheel.....	1/4-inch pipe.....	Fits connection R12.....	2.00

SMITH'S FLUXES Work Faster and Do a Better Job



(1) A-MAL-GAM N1. Recommended for welding of cast iron with bronze rod when the temperature must be kept at a minimum. Particularly adapted to so-called "cold" brazing when the piece is not preheated. It tins easily at low heat and forms a perfect bond between the bronze and cast iron. May also be used for fusion welding of cast iron.

This is a black flux packed in one pound moisture proof dark blue can. Instructions for use packed in each can.
N1 A-MAL-GAM, per pound\$1.50

(2) A-MAL-GAM N2. The best flux you can buy for brazing cast iron with bronze rod. It makes a perfect bond between the two metals even though the cast iron is at the melting point. It is fast flowing, tins readily and leaves a clean, bright surface with no waste of flux. It is also used for brazing steel and malleable iron or joining two dissimilar metals.

With Smith's A-Mal-Gam N2, many jobs can be brazed without preheating, but preheating is recommended if the piece being welded is thin or subject to unequal stress due to varied thickness of surrounding parts.

A red flux packed in a bright red moisture proof, one pound container. Instructions packed in each can.

N2 A-MAL-GAM, per pound\$1.50

(3) A-MAL-GAM N3. Smith's N3 A-Mal-Gam is an all-purpose flux for welding steel, malleable, copper and brass with bronze rod. Is also used for brazing galvanized iron, in which case it is mixed with water to form a paste and spread on the metal surface being brazed. It then acts as a protective coating in addition to the fluxing action.

A cream-colored flux in a bright yellow, moisture proof one pound can. Instructions for use packed in each can.

N3 A-MAL-GAM, per pound.....\$0.90

(4) Cast Iron Flux. A powerful, quick acting flux for fusion welding of cast iron parts with a cast iron rod. This flux dissolves the oxide and slag present in cast iron, and floats it to the surface of the puddle where it cannot cause hard spots or blow holes in the weld. When used according to directions, Smith's Cast Iron flux will produce close grained welds with good machining qualities—dependent, of course, upon the type of cast iron rod being used.

This is a dark red, granular flux in one pound or five pound moisture proof cans. Complete instructions packed in each can.

N41 CAST IRON FLUX, one lb. can, per lb.....\$0.60

N54 CAST IRON FLUX, 5 lb. can, per can.....2.25



(5) Sheet Aluminum Flux. This is a special flux used for welding aluminum sheets with an aluminum rod. Also used for welding aluminum castings. It causes oxides or impurities to float to the surface where they can be easily removed. Excess flux is removed by scrubbing with hot water. Packed in ¼ lb. bottles and ½ lb. and one pound moisture proof cans. Instructions carried on bottle or can label. (1-lb. can illustrated.)

N63 ¼ lb. bottle, each.....\$0.75

N63A ½ lb. can, each.....1.35

N63B 1 lb. can, each.....2.50

(6) Cast Aluminum Flux. For welding aluminum castings with cast aluminum rod or a drawn rod made of an alloy of 5% silicon and 95% aluminum. It acts as a cleanser, prevents formation of bubbles and breaks up oxide formation on weld surface.

Packed in 12 oz. moisture proof can with instructions for use shown on label.

N45 CAST ALUMINUM FLUX, per 12 oz. can.....\$1.25

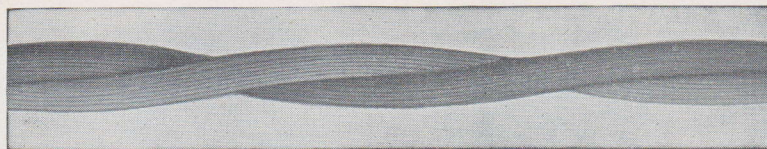
(7) Carbon Putty. This is a compound that no job shop can afford to be without. It has hundreds of uses in forming back up moulds for repairing castings and machined parts—retaining threads of bolt holes, lugs and corners—for lining up small, intricate pieces prior to welding and many others. Eliminates the need for carbon rods and blocks. Can be mixed with water to a thick paste and moulded to any desired shape. Packed in 5 lb. can.

N49 CARBON PUTTY, per 5 lb. can.....\$2.50

(8) Soft Soldering Flux. A quick acting general purpose flux for use in all types of soft soldering work. It bites through oil, grease and surface oxides to help produce strong bonds. Packed in 8 oz. can—sufficient to make one quart of liquid flux when mixed with water.

N47 SOLDERING FLUX, per 8 oz. can.....\$0.75

Smith's Welding Hose



"TWIN-TWIST" — A NEW Two Line Hose with the Flexibility of a Single Line

Smith's "Twin-Twist" is a completely new idea in two-line hose. Two lines of standard single hose are ingeniously spiralled into a very flexible "Twin-Twist" type and each line is free to bend and flex independently of the other because they are not cemented or moulded together. This gives "Twin Twist" a flexibility that is not found in ordinary two-line hose.

In case of damage, the two lines can be separated for repairing and easily rejoined after the repair is made.

"Twin-Twist" hose is made of tough, high quality rubber reinforced with heavy braid fabric. Available in $\frac{3}{8}$ " and $\frac{1}{4}$ " I.D. Oxygen hose is green. Acetylene hose is red. Cut lengths with connections are listed below.

"TWIN-TWIST" Hose — Cut Lengths with Connections

In the listing below, numbers prefixed with the letters "RA" cover $\frac{3}{16}$ " I.D. hose for use with Airline, Midline and other torches having $\frac{3}{8}$ "-24 thread connections. Numbers prefixed with letters "RL" cover $\frac{3}{16}$ " or $\frac{1}{4}$ " I.D. hoses for use with Lifelong, Lifetime and Thrift torches or others having $\frac{9}{16}$ "-18 thread connections.

Stock No.	Price	Length	Inside Diam.	Type	Connections	Fit
RA311	3.36	6 ft.	$\frac{3}{16}$ "	Twin-Twist	R13, R14, R13D, R14D	R13D & R14D connections fit outlets on oxygen and acetylene regulators. R13 & R14 connections fit inlets on all Midline and Airline torch bodies, lead burning torches, F928 & F1225.
RA321	5.70	12½ ft.	$\frac{3}{16}$ "	Twin-Twist	R13, R14, R13D, R14D	
RA331	10.20	25 ft.	$\frac{3}{16}$ "	Twin-Twist	R13, R14, R13D, R14D	
RL322	5.70	12½ ft.	$\frac{3}{16}$ "	Twin-Twist	R13D & 14D both ends	Oxygen and acetylene regulator outlets and inlets on all large torches.
RL331	10.20	25 ft.	$\frac{3}{16}$ "	Twin-Twist	R13D & 14D both ends	
RL721	6.70	12½ ft.	$\frac{1}{4}$ "	Twin-Twist	R11 & R12 both ends	Oxygen & acetylene regulator outlets and inlets on all large torches.
RL731	12.20	25 ft.	$\frac{1}{4}$ "	Twin-Twist	R11 & R12 both ends	
RL741	23.20	50 ft.	$\frac{1}{4}$ "	Twin-Twist	R11 & R12 both ends	

Standard Single Line Hose

Smith's standard single line hose is moulded of high quality rubber reinforced with braided fabric to make it tough, strong and flexible. Available in $\frac{3}{8}$ " and $\frac{1}{4}$ " I.D. for all welding uses and medium cutting. A specially constructed $\frac{1}{4}$ " I.D. oxygen hose is also available for use with the high oxygen pressures encountered in heavy cutting. Oxygen hose is green. Acetylene hose is red.

Stock No.	Price	Length	Inside Diam.	Type	Connections	Fit
RA111	1.68	6 ft.	$\frac{3}{16}$ "	Acetylene	R14, R14D	Acetylene regulator one end. Torch Nos. AW1, AW2, AW3, MW1, MW2, MW3, F928, F1225, NE140, NE150 other end.
RA121	2.85	12½ ft.	$\frac{3}{16}$ "	Acetylene	R14, R14D	
RA131	5.10	25 ft.	$\frac{3}{16}$ "	Acetylene	R14, R14D	
RA211	1.68	6 ft.	$\frac{3}{16}$ "	Oxygen	R13, R13D	Oxygen regulator one end. Torch Nos. AW1, AW2, AW3, MW1, MW2, MW3, F928, F1225, NE120, NE140 other end.
RA221	2.85	12½ ft.	$\frac{3}{16}$ "	Oxygen	R13, R13D	
RA231	5.10	25 ft.	$\frac{3}{16}$ "	Oxygen	R13, R13D	
RL111	1.68	6 ft.	$\frac{3}{16}$ "	Acetylene	R14D both ends	NE160, NE170, NE190, NE100, NE110 torches.
RL115	2.38	6 ft.	$\frac{3}{16}$ "	Acetylene	R14D & L47	NE179 & NE108 outfits.
RL122	2.85	12½ ft.	$\frac{3}{16}$ "	Acetylene	R14D both ends	Acetylene regulator outlet and acetylene inlet on all large torches.
RL131	5.10	25 ft.	$\frac{3}{16}$ "	Acetylene	R14D both ends	
RL222	2.85	12½ ft.	$\frac{3}{16}$ "	Oxygen	R13D both ends	Oxygen regulator outlet and oxygen inlet on all large torches.
RL231	5.10	25 ft.	$\frac{3}{16}$ "	Oxygen	R13D both ends	
RL521	3.35	12½ ft.	$\frac{1}{4}$ "	Acetylene	R12 both ends	Acetylene regulator outlet and acetylene inlet on all large torches.
RL531	6.10	25 ft.	$\frac{1}{4}$ "	Acetylene	R12 both ends	
RL541	11.60	50 ft.	$\frac{1}{4}$ "	Acetylene	R12 both ends	
RL551	20.60	100 ft.	$\frac{1}{4}$ "	Acetylene	R12 both ends	Oxygen regulator outlet and oxygen inlet on all large torches.
RL621	3.35	12½ ft.	$\frac{1}{4}$ "	Oxygen	R11 both ends	
RL631	6.10	25 ft.	$\frac{1}{4}$ "	Oxygen	R11 both ends	
RL641	11.60	50 ft.	$\frac{1}{4}$ "	Oxygen	R11 both ends	Oxygen regulator outlet and oxygen inlet on all Smith's cutting torches.
RL651	20.60	100 ft.	$\frac{1}{4}$ "	Oxygen	R11 both ends	
RL831	7.60	25 ft.	$\frac{1}{4}$ "	Oxygen	R11 both ends	
RL841	14.60	50 ft.	$\frac{1}{4}$ "	Oxygen	R11 both ends	Oxygen regulator outlet and oxygen inlet on all Smith's cutting torches.
RL851	26.60	100 ft.	$\frac{1}{4}$ "	Oxygen	R11 both ends	

For listing of hose connections, unions, splicers and clamps, see pages 29 & 30

Twin-Twist and Standard

Hose Without Connections

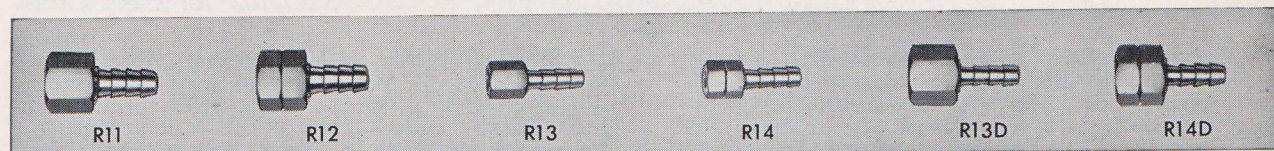
Stock No.	Price per ft. 1 to 99 ft.	Price per ft. 100 ft. or more	Inside Diam.	Type
RA100	\$.18	\$.16	$\frac{3}{16}$ "	Acetylene Standard
RA200	.18	.16	$\frac{3}{16}$ "	Oxygen Standard
* RA300	.36		$\frac{3}{16}$ "	Twin-Twist
RL500	.22	.20	$\frac{1}{4}$ "	Acetylene Standard
RL600	.22	.20	$\frac{1}{4}$ "	Oxygen Standard
* RL700	.44		$\frac{1}{4}$ "	Twin-Twist
RL800	.28	.26	$\frac{1}{4}$ "	Oxygen Cutting

Smith's hose is available in random lengths in multiples of 25 ft. and connections (if any) required must be specified on order.
 *Available only in 25 and 50 ft. lengths.

Leader Hose

Smith's Leader hoses are $\frac{3}{16}$ " I.D. by 6 ft. long. They are made up with connections which fit into $\frac{1}{4}$ " hose connections on one end and to torch inlets on the other end. Their use with large torches reduces operator fatigue because they are light and flexible. They also permit the use of small Airline or Midline torches on $\frac{1}{4}$ " hose.

Stock No.	Price	Connections	Type	Used Between
RA112	1.68	R14, R21	Acetylene	$\frac{1}{4}$ " hose connection R12 and acetylene inlet on Airline and Midline torches.
RA212	1.68	R13, R20	Oxygen	$\frac{1}{4}$ " hose connection R11 and oxygen inlet on Airline and Midline torches.
RA312	3.36	R13, R20, R14, R21	Twin-Twist	$\frac{1}{4}$ " hose connections R11 & R12, and oxygen & acetylene inlets on Airline and Midline torches.
RL112	1.68	R14D, R21	Acetylene	$\frac{1}{4}$ " hose connection R12 and acetylene inlet on Lifelong, Lifetime and Thrift torches.
RL212	1.68	R13D, R20	Oxygen	$\frac{1}{4}$ " hose connection R11 and oxygen inlet on Lifelong, Lifetime and Thrift torches.
RL312	3.36	R13D, R20, R14D, R21	Twin-Twist	$\frac{1}{4}$ " hose connections R11 & R12, and oxygen and acetylene inlets on Lifelong, Lifetime and Thrift torches.



Hose Connections

Smith's Hose Connections consist of a nut machined from solid brass and a tailpiece made from seamless brass tubing. They form a leakproof joint between hose, regulators and torches.

R11 — $\frac{1}{4}$ " Oxygen Hose Connection. Nut fits outlet on oxygen regulators which have 9/16"-18 right hand male thread on outlet and on the oxygen inlet connection of Lifelong, Lifetime and Thrift torches or other torches using this type of connection. Tailpiece fits into $\frac{1}{4}$ " I.D. oxygen hose. Each.....\$0.30

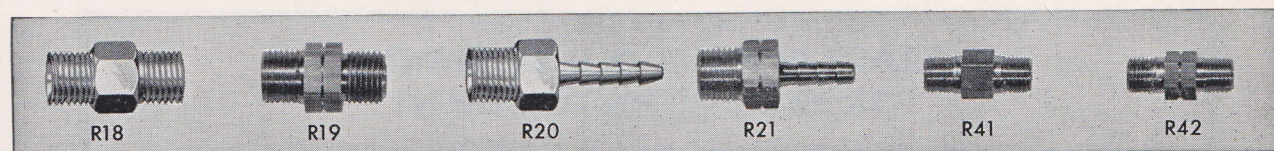
R12 — $\frac{1}{4}$ " Acetylene Hose Connection. Nut fits outlet on acetylene regulators which have 9/16"-18 left hand male thread on outlet and on the acetylene inlet connection of Lifelong, Lifetime and Thrift torches or other torches using this type of connection. Tailpiece fits into $\frac{1}{4}$ " I.D. acetylene hose. Each.....\$0.30

R13 — $\frac{3}{16}$ " Oxygen Hose Connection. Nut fits oxygen inlet connection on following torches: Airline, Midline, Aircraft, Autocraft, Lead Burning and Radiator Torch or other torches using 3/8"-24 right hand male thread. Tailpiece fits into $\frac{3}{16}$ " I.D. oxygen hose. Each.....\$0.30

R14 — $\frac{3}{16}$ " Acetylene Hose Connection. Nut fits acetylene (or fuel gas) inlet connection on following torches: Airline, Midline, Aircraft, Autocraft, Lead Burning and Radiator Torch or other torches using 3/8"-24 left hand male thread. Tailpiece fits into $\frac{3}{16}$ " I.D. acetylene hose. Each.....\$0.30

R13D — $\frac{3}{16}$ " Oxygen Hose Connection. Nut fits outlet on oxygen regulators which have 9/16"-18 right hand male outlet thread and on oxygen inlet connection of Lifelong, Lifetime and Thrift torches or other torches using this type of connection. Tailpiece fits into $\frac{3}{16}$ " oxygen hose. Each.....\$0.30

R14D — $\frac{3}{16}$ " Acetylene Hose Connection. Nut fits outlet on acetylene regulators which have 9/16"-18 left hand male outlet thread and on acetylene inlet connection of Lifelong, Lifetime and Thrift torches or other torches using this type of connection. Tailpiece fits into $\frac{3}{16}$ " I.D. acetylene hose. Each.....\$0.30



Hose Unions

Smith's Hose Unions are made in two types. One type has male threads on both ends and is used for joining two pieces of hose having the same connections. The second type has a male thread on one end which fits 9/16"-18 thread hose connections and on the other end a tailpiece which fits into $\frac{3}{16}$ " I. D. hose.

R18 — Union for R11 and R13D hose connections. Has 9/16"-18 right hand male thread on each end. Used to join two oxygen hoses having R11 or R13D connection. Each.....\$0.30

R19 — Union for R12 and R14D hose connections. Has 9/16"-18 left hand male thread on each end. Used to join two acetylene hoses having R12 or R14D connections. Each.....\$0.30

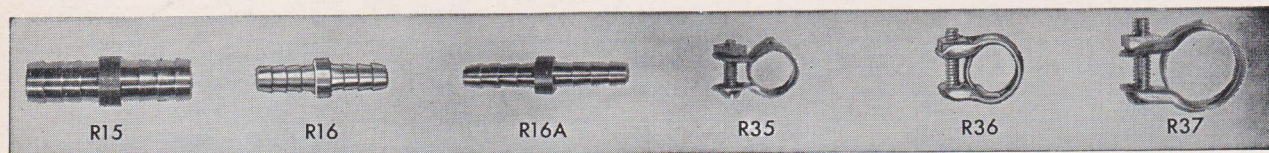
R20 — Union has 9/16"-18 right hand male thread on one end which fits R11 and R13D hose connections. Other end fits into $\frac{3}{16}$ " oxygen hose. Used on inlet end of leader hose numbers RA212, RA312, RL212 and RL312. Each.....\$0.30

R21 — Union has 9/16"-18 left hand male thread on one end which fits R12 and R14D hose connections. Other end fits into $\frac{3}{16}$ " I.D. acetylene. Used on inlet end of leader hose numbers RA112, RL112 and RL312. Each.....\$0.30

R41 — Union for R13 hose connections. Has 3/8"-24 right hand male thread on each end. Used to join two oxygen hoses having R13 connections. Each.....\$0.30

R42 — Union for R14 hose connections. Has 3/8"-24 left hand male thread on each end. Used to join two acetylene hoses having R14 connections. Each.....\$0.30

Hose Splicers and Hose Clamps



Hose Splicers are used with hose clamps to repair a damaged piece of hose or to join two lengths of hose without connections. A quick repair is made by cutting out the damaged portion and re-joining with the proper size of splicer as listed below.

R15 For 3/8" I.D. hose, each.....	\$0.30
R16 For 1/4" or 5/16" I.D. hose, each.....	.30
R16A For 3/16" I.D. hose, each.....	.30

Hose Clamps. Cut lengths of hose, ordered with connections from the factory, have the connections installed with a machine set ferrule. When making temporary repairs, it is necessary to use a hose clamp in order to make a gas tight installation of a hose connection or splicer. Available in three sizes for various hose diameters.

R35 Hose Clamp for 3/16" I.D. hose, each.....	\$0.10
R36 Hose Clamp for 1/4" or 5/16" I.D. hose, each.....	.10
R37 Hose Clamp for 3/8" I.D. hose, each.....	.10

Torch and Hose Adaptors



R29 Torch Adaptor. Male end fits into R11 or R13D oxygen hose connection nut. Female nut fits oxygen inlet connection on Airline, Midline, Aircraft or Auto-craft torch bodies. In combination with Adaptor No. R30, it permits one of the above torches to be used on hose having R11 and R12 or R13D and R14D connections.

Price\$0.60

R30 Torch Adaptor. Male end fits into R12 or R14D acetylene hose connection nut. Female nut fits acetylene inlet connection on Airline, Midline, Aircraft and Auto-craft torch bodies. In combination with Adaptor No. R29, it permits one of the above torches to be used on hose having R11 and R12 or R13D and R14D connections.

Price\$0.60

R22 Torch Adaptor. Male end fits into R13 oxygen hose connection nut. Female nut fits oxygen inlet connection on Lifelong, Lifetime and Thrift torch bodies. In combination with Adaptor No. R23, it permits one of the above torches to be used on hose having R13 and R14 connections.

Price\$0.60

R23 Torch Adaptor. Male end fits into R14 acetylene hose connection nut. Female end fits acetylene inlet connection on Lifelong, Lifetime and Thrift torch bodies. In combination with Adaptor No. R22, it permits one of the above torches to be used on hose having R13 and R14 connections.

Price\$0.60

R131 Hose Adaptor. Large end fits into R11 or R13D oxygen hose connection nut. Small end fits into R13 oxygen hose connection nut. Enables 3/8" oxygen hose having R13 connection to be joined to oxygen hose having R11 or R13D connection.

Price\$0.30

R132 Hose Adaptor. Large end fits into R12 or R14D acetylene hose connection nut. Small end fits into R14 acetylene hose connection nut. Enables 3/8" acetylene hose having R14 connection to be joined to acetylene hose having R12 or R14D connection.

Price\$0.30

TRADE IN YOUR OLD EQUIPMENT FOR NEW SMITH'S EQUIPMENT

Your old equipment (regardless of make or age) has a real trade-in value when you buy New Smith's Equipment.

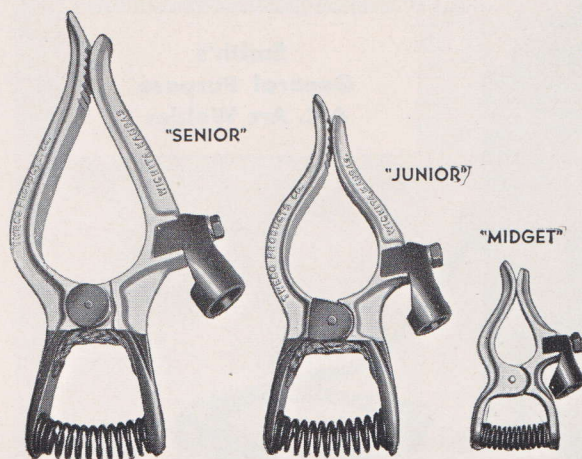
Here is a list of the items on which a trade-in will apply.

- Complete welding and cutting outfits.
- Welding and cutting torch sets.
- Cutting assemblies and cutting torches.
- Regulators (with or without gauges).
- Type K or Type D Acetylene Generators.

See your authorized Smith's distributor for complete details about this liberal trade-in plan.

TWECO PRODUCTS

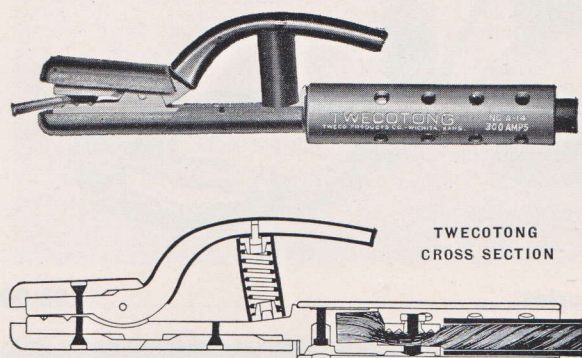
Help You Get the Most Efficient Results from Your Arc Welder



Tweco "Redhead" Ground Clamps

The original arc welding Ground Clamp provides a quick, positive and portable ground connection. Increases operator and machine efficiency. Easy moving helps eliminate arc blow. Holders and cables run cooler, last longer. Cuts current consumption with lower machine settings. Design features insulated spring, simple clamp cable connection, shunted jaws on Jr. and Sr. models. All models made of high copper alloy.

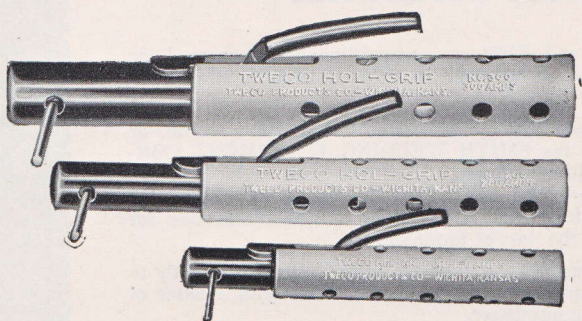
Model	Cap. Amps.	Cable Cap.	Jaw Opening	Weight Pounds	List	Consumer	Quantity	Prices
Midget	125	No. 2	1"	1/2	\$1.50	6-11	12-47	48-99
Junior	300	No. 1/0	1 1/2"	1 1/2	3.00	\$1.35	\$1.30	\$1.25
Senior	500	No. 4/0	2"	2 1/2	4.50	2.70	2.55	2.40
						4.05	3.85	3.65



"Twecotong" Electrode Holders

Patented "TWECOTONG" Holders feature simplicity of design and operation using only the best of materials—high copper alloy holder casting—rugged "Super-Mel" insulation covers made from Multi-Layer Glass Cloth Bakelite which resists great heat and impact. Ventilated fibre handle; enclosed and insulated spring. "TWECOTONGS" are cool running, have positive electrode grip and perfect balance. All parts replaceable. Model numbers prefixed "A" are Insulated; models prefixed "B" are semi-insulated. Refer to TWECOLOG for information on special Detachable Handle Stinger-Tongs and Detachable Cable Connection models.

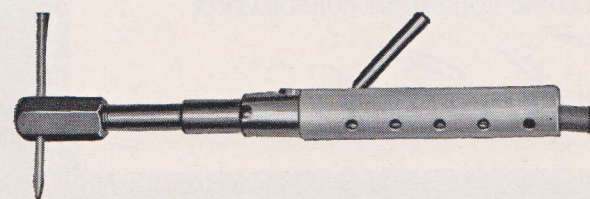
Model	Electrode Size	Cap. Amps.	Wt. Oz.	Lth. In.	List	6-11	12-47	48-99
A-532	5/32-1/16"	200	13	8 1/4	\$4.50	\$4.05	\$3.85	\$3.65
A-316	3/16-1/16"	250	18	9	4.75	4.30	4.10	3.90
A-14	1/4-1/16"	300	22	11	5.00	4.50	4.25	4.00
A-38	3/8-3/32"	500	28	12	6.50	5.85	5.55	5.20
B-14	1/4-1/16"	300	20	10 3/4	3.25	2.95	2.80	2.65
B-38	3/8-3/32"	500	28	11 1/2	4.25	3.85	3.65	3.45



Tweco "Hol-Grip" Electrode Holders

A fully insulated hole-type electrode holder which grips electrodes in positive 45° (bottom hole) and 90° (side hole) positions. One hand lever operation permits easy rod insertion and stub removal. All models of "Hol-Grip" are provided with one piece Bakelite Tip covers keyed to the holder casting and well-ventilated fibre handle. Clamp cable connection. All parts are replaceable.

Model	Cap. Amps.	Electrode Size	Wt. Oz.	Lth. In.	List	6-11	12-47	48-99
150	150	1/8-1/32"	7 1/2	7	\$3.75	\$3.40	\$3.25	\$3.10
200	200	3/16-1/16"	13 1/2	9 1/2	4.50	4.05	3.85	3.65
300	300	1/4-1/16"	22	10 1/2	5.00	4.50	4.25	4.00



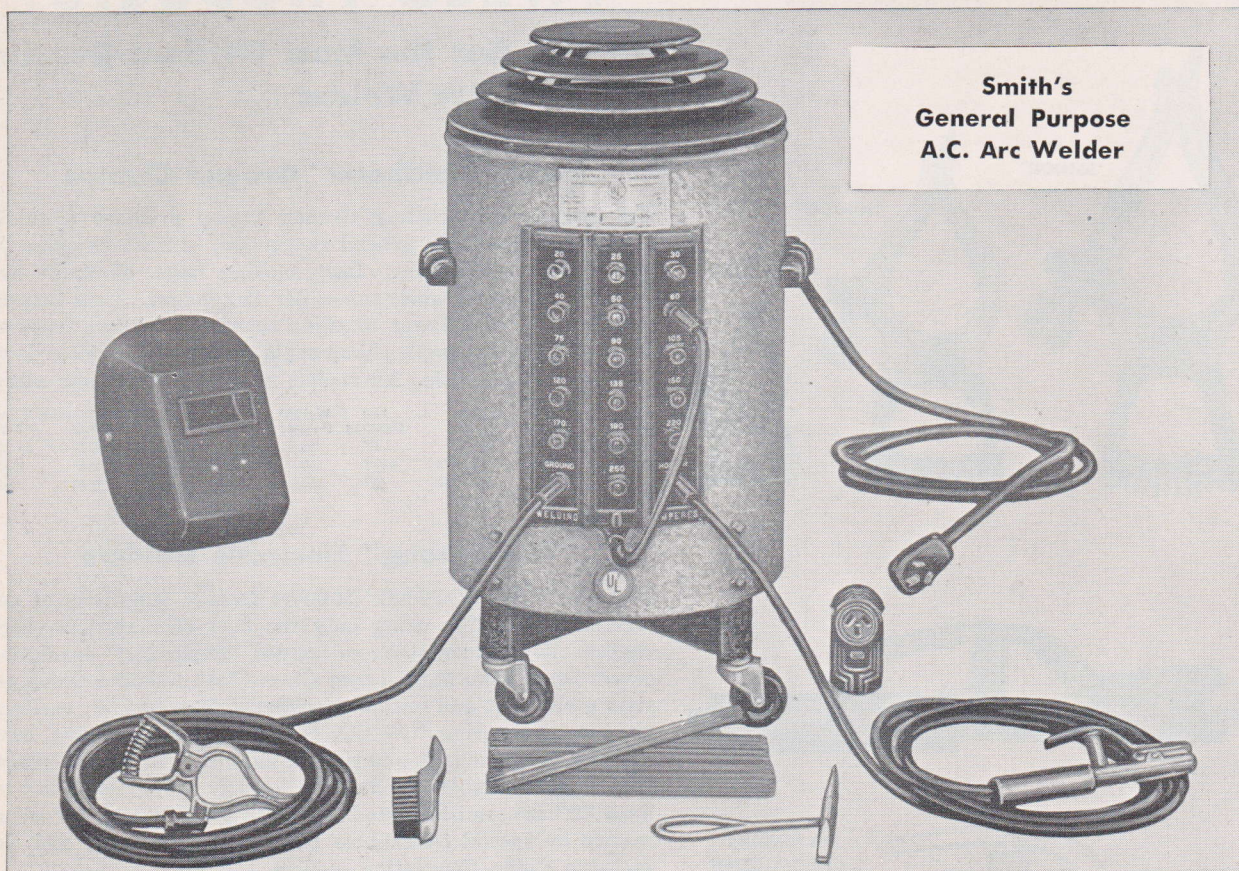
Tweco Carbon Electrode Holders

A TWECO tool that has earned the reputation for cool operation. The "plunger-grip" provides easy adjustment of carbon length. Light weight; good balance. Each model accommodates all carbon diameters within its capacity range without change of head. Simple clamp cable connection.

Model	Cap. Amps.	Carbon Diameter	Wt. Oz.	Lth. In.	List	6-11	12-47	48-99
150-C	150	1/4- 1/8"	13 1/2	10 3/4	\$ 7.50	\$ 6.75	\$ 6.40	\$ 6.10
200-C	200	3/8-3/16"	20	13	10.00	9.00	8.55	8.15
300-C	300	1/2- 1/4"	36	14 3/4	12.50	11.25	10.70	10.15
500-C	500	3/4-7/16"	55	19 3/4	15.00	13.50	12.85	12.20

Ask for complete Tweco Catalog.

SMITH'S A.C. ARC WELDERS Are Guaranteed for Five Years



No. E102 — 250 Amp. Welder, Complete with Accessories.....\$285.00

SMITH'S FIVE YEAR SERVICE GUARANTEE

Smith's A.C. Arc Welders, Stock Nos. E102, E103 and E150 are unconditionally guaranteed, as hereinafter provided, against electrical failure from within, or burnout, FOR FIVE YEARS, when used with the current specified on the label of the machine.

Should a Smith's A.C. Welder become unfit for service through electrical failure from within, or burnout, during the first year following date of purchase, the SMITH WELDING EQUIPMENT CORPORATION (at its option) will repair or replace same without charge. After one year, and up to five years, repair or replacement will be made on a monthly pro rata basis, i. e., the purchaser will pay at the rate of 1/60th of the current retail price of a new Smith's A.C. Arc Welder of similar capacity for each month, or fraction thereof, which has elapsed since the date of purchase.

In the event of such failure, or burnout, the welder must be crated carefully and returned directly to SMITH WELDING EQUIPMENT CORPORATION, Minneapolis, Minnesota, together with a letter of explanation. All transportation charges to be paid by the purchaser.

This guarantee shall be void if any repairs or alterations are made to the welder outside of the manufacturer's own factory.

All warranties and guarantees, either expressed or implied, pertaining to the above described welder are fully set forth in this certificate.

SMITH WELDING EQUIPMENT CORPORATION

E. H. Smith.

Available in Three Standard Sizes—150 Amp., 200 Amp. and 250 Amp.

General Purpose Models— 200 and 250 Amp. Sizes

Smith's A.C. Arc Welders are designed to meet the need for dependable, efficient machines to handle everything but heavy production work.

The 200 ampere size No. E103 is best suited to shops, garages and factories where the work does not require the use of electrodes larger than $\frac{3}{8}$ " diameter.

The 250 ampere size No. E102 is an all purpose welder for job shops, maintenance work or medium heavy production. It performs nicely with electrode sizes up to and including $\frac{1}{4}$ " diameter.

All Smith's Welders are unusually quiet in operation. The only noise you hear from the machine itself is a businesslike hum. Generous use of heavy copper wire and high grade silicon steel plus careful workmanship provides surplus capacity and endurance. Transformer operates with a minimum of heating to prolong its life and add to its efficiency. Adequate ventilation within the welder case, is achieved without mechanical means.

Plainly marked control panel provides amperage selection in 16 heat stages. Change from one amperage to another is made quickly and easily with plug-in type of control cable. There are no moving parts to wear out or become noisy.

The 220 volt models are approved by Underwriters' Laboratories, Inc., and they also carry Canadian Standards Association approval No. 6303.

Light Duty Model—150 Amps.

This light duty welder fills the need for a modern, efficient machine to meet low input requirements for average welding jobs in repair shops located in rural areas where limited power is available. It is ideal also for farms and ranches where adequate 220 volt power is obtainable. High efficiency gives Smith's Light Duty Welder a hotter, faster arc than many machines claiming a higher maximum amperage.

Smith's Light Duty Welder is designed to meet REA specifications and is furnished with a capacitor for power factor correction. Kilowatt rating is well within the capacity of transformers usually supplied to users in rural areas.

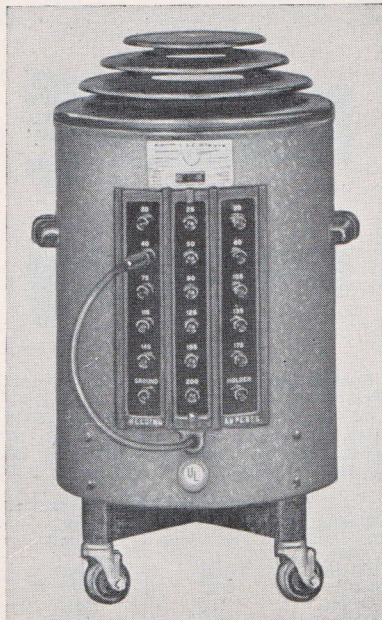
Simplified control panel provides accurate amperage setting in 13 heat stages. Machine easily handles electrodes up to and including $5/32$ " size. The transformer is full size and built to exacting standards to provide maximum trouble-free life. There are no moving parts to wear out or cause trouble. Continuous circulation of air around every vital part is achieved by natural ventilation.

Like the General Purpose Welders, this machine is approved by Underwriters' Laboratories, Inc. and also carries Canadian Standards Association approval No. 6303.

Standard accessory set includes all items pictured with the 250 ampere welder on page 32.

Specifications and Prices

	E-102 250 Amp.	E-103 200 Amp.	E-150 150 Amp.
Width.....	21"	21"	21"
Height Less Casters.....	32 $\frac{1}{2}$ "	32 $\frac{1}{2}$ "	32 $\frac{1}{2}$ "
Overall Height.....	35"	35"	35"
Net Weight (Welder Only).....	270 lbs.	223 lbs.	240 lbs.
Shipping Weight (Welder Only).....	300 lbs.	260 lbs.	275 lbs.
Shipping Weight Accessories.....	42 lbs.	42 lbs.	40 lbs.
Secondary Cable Length.....	15 ft.	15 ft.	15 ft.
INPUT			
Volts.....	220	220	220
Phase.....	Single	Single	Single
Cycles.....	50-60	50-60	50-60
Amperes (Rated Load).....	45	36	34
Amperes (Maximum Welding).....	60	50	50
K. V. A. (Rated Load).....	10	8	7.8
K. W. Rating.....	7 $\frac{1}{2}$	6	5
Power Factor.....	75%	75%	64%
OUTPUT			
Amperage Range.....	20-250	20-200	20-150
Heat Settings.....	16	16	13
Welding Voltage.....	20-39	20-36	20-25
Open Circuit Voltage.....	40-98	40-96	40-65
Price with Accessories.....	\$285.00	\$258.00	\$231.00

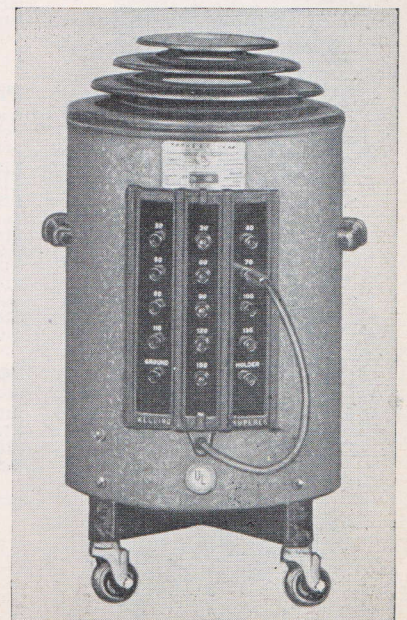


Welder numbers E102 and E103 are also available for use with 440 or 550 volts at an additional charge of \$10.00 per unit. Primary plug and receptacle not furnished with 440 or 550 volt machines. 440 volt welders may also be used on 220 volts.

A Five Year Service Guarantee covers your investment in any Smith's A. C. Welder. It is your best assurance of inherent high quality, expert workmanship and finest obtainable materials.

← **No. E-103—200 Amp. Size**

No. E-150—150 Amp. Size →



Arc Welding Accessories

Seamless Welder's Helmets

Smith's Seamless Welder's Helmets are pressure formed in one piece from special heat resistant fibre, producing light proof helmets that afford maximum protection and comfort to the wearer. Helmet numbers E142 and E143 have inward curved top, and straight lower portion. Numbers E160 and E161 are smaller proportioned helmets with curved top and bottom meeting a short body. Construction is entirely free of rivets. Made in two types to accommodate varying requirements.

Each helmet is equipped with quick adjustable ratchet type head gear with entire mechanism enclosed in solid fibre tube. Cannot catch in the hair.

E142—Seamless Helmet with rivetless insulated lens holder and adjustable fibre chin rest. Equipped with No. 10 shade 2"x4 1/8" Federal Specification lens protected by clear lens. Leather sweat band. Net weight 1 1/2 lbs. Shipping weight 2 lbs. 6 oz., each...\$9.75

E143—Seamless Helmet with insulated Dowmetal lift-front lens holder which permits operator to observe his work without lifting entire helmet. Equipped with No. 10 shade 2"x4 1/8" Federal Specification lens protected by clear lens. Helmet body is protected with a second clear lens to protect operator from flying slag particles when lens holder is in raised position. Leather sweat band. Net weight 1 lb. 11 oz. Shipping weight 2 lbs. 9 oz., each...\$12.25

E160—Seamless Helmet with rivetless insulated stationary lens holder. A close fitting helmet with rounded contours for close quarter welding. Has No. 10 shade 2"x4 1/8" Federal Specification lens protected by clear lens. Leather sweat band. Net weight 1 1/2 lbs. Shipping weight 2 lbs. 6 oz., each...\$10.50

E161—Seamless Helmet has Dowmetal lift-front lens holder which enables operator to observe his work without lifting entire helmet. Has No. 10 shade 2"x4 1/8" Federal Specification lens protected by clear lens. Helmet body has a second clear lens to protect operator's eyes from flying slag when lens holder is raised. Leather sweat band. Net weight 1 lb. 11 oz. Shipping weight 2 lbs. 9 oz., each...\$13.00

Helmet Lenses and Seamless Helmet Parts

E125-9 Federal Specification lens, shade 9. For arc welding between 75 and 150 amperes. 2"x4 1/8" size. Each.....	\$1.25
E125-10 Federal Specification lens, shade 10. For arc welding between 150 and 250 amperes. 2"x4 1/8" size. Each.....	1.25
E125-11 Federal Specification lens, shade 11. For arc welding between 225 and 275 amperes. 2"x4 1/8" size. Each.....	1.25
E125-12 Federal Specification lens, shade 12. For arc welding between 250 and 350 amperes. 2"x4 1/8" size. Each.....	1.25
E125-13 Federal Specification lens, shade 13. For carbon arc welding and cutting, electric furnace operation, 350 to 400 amperes. 2"x4 1/8" size. Each.....	1.25
E125-1 Plain clear cover lens, 2"x4 1/8" size. Each.....	.10
E125-2 Spatter-proof clear lens, 2"x4 1/8" size. Each.....	.25
E142-1 Replacement head gear, each.....	2.25
E142-2 Replacement sweat band, each.....	.75

Fabricated Helmet, Handshield and Parts

E125—Helmet A low priced, lightweight helmet made of durable vulcoid shaped to give face and neck protection in any position. Has adjustable head band and imitation leather sweat band. Shade 9 Federal Specification 2"x4 1/8" lens with each helmet. Each\$5.00

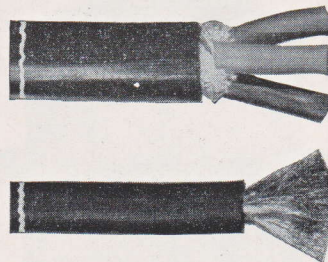
E126—Handshield Lightweight for intermittent welding and inspection. Has same lens as E125. Each..... 3.75

E125-20 Head band with springs, washers and nuts, complete	2.75
E125-21 Leather sweat band with sponge rubber cushion, each.....	.65
E125-22 Lens retainer frame	.40
E125-23 Fibre lens gaskets, each.....	.15
E125-24 Lens retainer clips for old style helmets, each	.10

Primary and Secondary Cables

Primary Cable has 3 conductors — one for ground and two for carrying current. Passes Underwriters' Laboratories requirements. For use with 220 and 440 volts.

E100-54 Three #6 wire conductors for E102 and E103 welders. Per foot.....	\$0.65
E150-52 Three #8 wire conductors for E150 welders. Per foot	.55
E100-56A Replacement primary cable with moulded primary plug attached. 12 ft. length for E102 and E103 welders. Each	11.00
E100-50 Pressed fibre 220 volt male primary plug, each	3.50
E100-49 Primary receptacle, 220 volt. Fits E100-50 plug, each	3.25



Secondary Cable is finely stranded for flexibility. Rubber outer covering is tough and wear resistant. Available in several sizes for different amperage requirements.

E100-51 No. 2 cable for electrode holder and ground leads on E102 and E103 welders. Per foot.....	\$0.32
E100-59 No. 1 cable for long leads on E102 and E103 welders. Per foot.....	.40
E100-63 No. 1/0 cable for long extension leads for high amperage work with E102 welder. Per foot	.50
E150-51 No. 3 cable for electrode holder and ground leads on E150 welder.....	.29

AWG	Stranding	No. Wires	Amperage Capacity	Weight Per 1,000 Feet	Dia. Bare Conductors	Dia. Overall
2	7x7x34x#34	1666	200	330 lbs.	.340"	.620"
1	7x7x44x#34	2156	250	410 lbs.	.390"	.680"
0	7x7x54x#34	2646	300	490 lbs.	.410"	.740"
00	7x7x69x#34	3381	375	590 lbs.	.470"	.800"
000	12x7x51x#34	4284	450	750 lbs.	.565"	.895"

Arc Welding Accessories

Secondary Cable with Cable Connections

- E100-70 — Electrode holder lead** for continuous welding at top amperages of E102 welder. Consists of: 20 ft. E100-59 cable, 1-A14 Twecotong Electrode holder and male panel plug, each.....\$15.00
- E100-71 — Ground lead** for continuous welding at top amperages of E102 welder. Consists of: 20 ft. E100-59 cable, 1 Tweco Jr. ground clamp and male panel plug, each.....\$13.00
- E100-72 — Electrode holder lead** supplied with E102 and E103 welders. Consists of: 20 ft. E100-51 cable, 1—A14 Twecotong electrode holder and male panel plug, each.....\$13.40
- E100-73 — Ground lead** supplied with E102 and E103 welders. Consists of: 20 ft. E100-51 cable, 1 Tweco Jr. ground clamp and male panel plug, each.....\$11.40
- E150-31 — Ground lead** supplied with E150 welder. Consists of: 15 ft. E150-51 cable, Tweco Midget ground clamp and male panel plug, each.....\$7.85
- E150-32 — Electrode holder lead** supplied with E150 welder. Consists of: 15 ft. E150-51 cable, 1 E104 electrode holder and male panel plug, each.....\$8.85
- E100-74 — 25 ft. extension cable** for lengthening electrode holder or ground leads on Smith's A.C. welders. Consists of 25 ft. E100-59 cable with necessary connections, each.....\$12.50
NOTE: If longer than 25 ft. extension is needed, add 40c per foot to price listed.
- E100-75 — 25 ft. extension cable** for lengthening electrode holder or ground leads on E102 welder for heavy or continuous welding. Consists of: 25 ft. E100-63 cable and necessary connections, each.....\$15.50
NOTE: If longer than 25 ft. extension is needed, add 50c per foot to price listed.

Miscellaneous Accessories

E104 Electrode Holder and Parts

(1) E104 Electrode holder

sturdily built of cast bronze with insulated spring, heat guard and insulated spring. Net weight 23 oz. Capacity $\frac{1}{8}$ " to $\frac{1}{4}$ " electrodes, each.....\$2.50

- E104-1—Handle, each.....\$0.75
- E104-2—Thumb insulator, each......15
- E104-3—Fibre heat shield, each......15
- E104-5—Lower jaw, each..1.00
- E104-6—Upper jaw, each..1.00
- E104-7—Spring, each......10
- E104-10—Outer spring cup, each......25
- E104-11—Inner spring cup, each......25

(2) E131 Scratch Brush for removal of slag rust and scale. Has four rows of stiff wire bristles solidly embedded in hardwood handle, each.....\$0.55

(3) E129A Welder's Gloves are made of heavy selected chrome tanned leather with thick one-piece back. Forefinger and thumb have extra reinforcement, per pair...\$4.50

(4) E100-65 Cable Connector

Set consists of 2 E100-66 male plugs, 2 E100-67 female plugs and 4 E100-68 insulators. For use with 1/0 (E100-63) and 2/0 cable. Per set.....\$3.00

(5) E100-62 Cable Connector

Set consists of 2 E100-13 male plugs, 2 E100-24 female plugs and 4 E100-18 insulators. For use with E100-51, E100-59 and E150-51 cable. Per set.....\$2.00

(6) Casters for Arc Welders.

These hard rubber, bronze bushing casters are made in two sizes. The 3" size is furnished with Smith's E102, E103, and E150 A.C. welders The 4" size fit these machines and are for use when the welder must be moved over irregular rough floors.

- E100-6A Casters, 3" dia., per set of 4.....\$4.50
- E100-64 Casters, 4" dia., set of 4.....\$5.00

Welding Carbons

Used as electrode in carbon arc welding and to protect threads in tapped holes during welding. They have high resistance to intense heat.

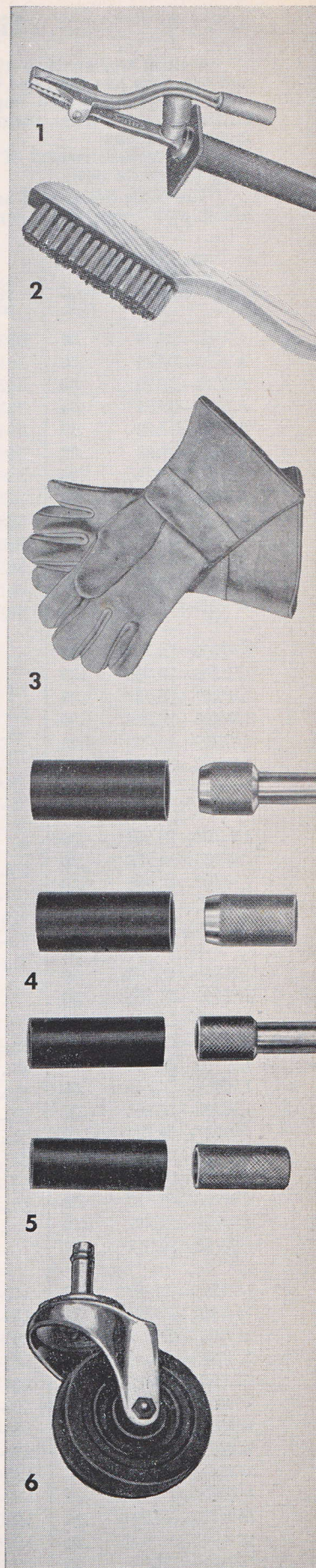
- E130-5 $\frac{3}{8}$ " x 12", per doz.....\$2.10
- E130-6 $\frac{1}{4}$ " x 12", per doz.....2.35
- E130-8 $\frac{3}{8}$ " x 12", per doz.....2.70

E133A Welder's Sleeves (not illustrated). Per sleeve.....\$4.65

E135A Welder's Apron (not illustrated). Size 24"x42". Price...\$10.25

Special Notice

Please refer to page 40 for a complete selection of TWECO electrode holders and ground clamps. The finest in cable connections for electric welding.



Tip Cleaners for Welding and Cutting Tips

A clean tip, whether it's for welding or cutting, does better work faster and uses less gas than one that's full of slag. The regular use of the proper sized cleaner does two important jobs; it makes your tips operate more efficiently and makes them last many times longer. Keep your tips clean and save money!

Tip cleaners consist of a cleaner rod soldered into a brass shank and numbered to correspond to the tip in which they are to be used.

The table below will help you order correct size cleaners needed. Please note that discontinued tips are listed along with those being currently manufactured.



Cleaners for Welding Tips			Cleaners for Welding Tips			Cleaners for Welding Tips			Cleaners for Cutting Tips			Cleaners for Cutting Tips		
Tip No.	Cleaner No.	Price Each	Tip No.	Cleaner No.	Price Each	Tip No.	Cleaner No.	Price Each	Tip No.	Cleaner No.	Price Each	Tip No.	Cleaner No.	Price Each
AW18—DA18		.30	B60—DL700		.30	A18 & 18—DA18		.30	LC14-6—DL4-6C		.30	1CI—DL21-6C		.30
AW19—DA19		.30	B61—DL701		.30	A19 & 19—DA19		.30	—DL4-6P		.30	—DL21-6P		.30
AW20—DA20		.30	B62—DL702		.30	A20 & 20—DA20		.30	LC15-6—DL5-6C		.30	2CI—DL22-6C		.30
AW21—DA21		.30	B63—DL703		.30	A21 & 21—DA21		.30	—DL5-6P		.30	—DL22-6P		.30
AW22—DA22		.30	B64—DL704		.30	A22 & 22—DA22		.30	LC16-6—DL6-6C		.30	3CI—DL23-6C		.30
AW23—DA23		.30	B65—DL705		.30	A23 & 23—DA23		.30	—DL6-6P		.30	—DL23-6P		.30
AW24—DA24		.30	B66—DL706		.30	A24 & 24—DA24		.30	LC21-6—DL21-6C		.30	4CI—DL24-6C		.30
AW25—DA25		.30	B67—DL707		.30	A25 & 25—DA25		.30	—DL21-6P		.30	—DL24-6P		.30
AW26—DA26		.30	B68—DL708		.30	A26 & 26—DA26		.30	LC22-6—DL22-6C		.30	5CI—DL25-6C		.30
AW27—DA27		.30	B69—DL709		.30	A27 & 27—DA27		.30	—DL22-6P		.30	—DL25-6P		.30
AW28—DA28		.30	B610—DL710		.30	A28 & 28—DA28		.30	LC23-6—DL23-6C		.30	6CI—DL26-6C		.30
AW29—DA29		.30	B611—DL711		.30	A29 & 29—DA29		.30	—DL23-6P		.30	—DL26-6P		.30
AW30—DA30		.30	B612—DL712		.30	A210—DA30		.30	LC24-6—DL24-6C		.30	0-6J or JL—DL0-6C		.30
						V20—DA20		.30	—DL24-6P		.30	—DL0-6P		.30
LW205—DL705		.30				V21—DA21		.30	LC25-6—DL25-6C		.30	1-6J or JL—DL1-6C		.30
LW206—DL706		.30				V22—DA22		.30	—DL25-6P		.30	—DL1-6P		.30
LW207—DL707		.30	70—DL700		.30	V23—DA23		.30	LC26-6—DL26-6C		.30	2-6J or JL—DL2-6C		.30
LW208—DL708		.30	71—DL701		.30	V24—DA24		.30	—DL26-6P		.30	—DL2-6P		.30
LW209—DL709		.30	72—DL702		.30	V25—DA25		.30	LC41-0—DL41-0C		.30	3-6J or JL—DL3-6C		.30
LW210—DL710		.30	73—DL703		.30	V26—DA26		.30	—DL41-0P		.30	—DL3-6P		.30
LW211—DL711		.30	74—DL704		.30	V27—DA27		.30	LC42-0—DL42-0C		.30	4-6J or JL—DL4-6C		.30
			75—DL705		.30	V28—DA28		.30	—DL42-0P		.30	—DL4-6P		.30
LW404—DL704		.30	76—DL706		.30	V29—DA29		.30	LC43-0—DL43-0C		.30	5-6J or JL—DL5-6C		.30
LW405—DL705		.30	77—DL707		.30	V210—DA30		.30	—DL43-0P		.30	—DL5-6P		.30
LW406—DL706		.30	78—DL708		.30	Cleaners for Cutting Tips			LC51-0—DL51-0C		.30	6-6J or JL—DL6-6C		.30
LW407—DL707		.30	79—DL709		.30				—DL51-0P		.30	—DL6-6P		.30
LW408—DL708		.30	710—DL710		.30	Tip No.	Cleaner No.	Price Each	LC52-0—DL52-0C		.30	2R—DL51-0C		.30
			711—DL711		.30	LC0-4—DL0-4C		.30	—DL52-0P		.30	—DL51-0P		.30
			712—DL712		.30	—DL0-4P		.30	LC61-0—DL61-0C		.30	3R—DL52-0C		.30
LW700—DL700		.30				LC1-4—DL1-4C		.30	—DL61-0P		.30	—DL52-0P		.30
LW701—DL701		.30				—DL1-4P		.30	LC62-0—DL62-0C		.30	6SC—DL66-0C		.30
LW702—DL702		.30				LC2-4—DL2-4C		.30	—DL62-0P		.30	—DL66-0P		.30
LW703—DL703		.30	50—DL700		.30	—DL2-4P		.30	LC66-0—DL66-0C		.30	GT1—DL41-0C		.30
LW704—DL704		.30	51—DL701		.30	LC3-4—DL3-4C		.30	—DL66-0P		.30	—DL41-0P		.30
LW705—DL705		.30	52—DL702		.30	—DL3-4P		.30	MC1-4—DM1-4C		.30	GT2—DL42-0C		.30
LW706—DL706		.30	53—DL703		.30	LC4-4—DL4-4C		.30	—DM1-4P		.30	—DL42-0P		.30
LW707—DL707		.30	54—DL704		.30	—DL4-4P		.30	MC2-4—DM2-4C		.30	GT3—DL43-0C		.30
LW708—DL708		.30	55—DL705		.30	LC0-6—DL0-6C		.30	—DM2-4P		.30	—DL43-0P		.30
LW709—DL709		.30	56—DL706		.30	—DL0-6P		.30	MC3-4—DM3-4C		.30	0-4—P168	0-4C	.30
LW710—DL710		.30	57—DL707		.30	LC1-6—DL1-6C		.30	—DM3-4P		.30	—P169	0-4P	.30
LW711—DL711		.30				—DL1-6P		.30	MC4-4—DM4-4C		.30	1-4—P170	1-4C	.30
LW712—DL712		.30				LC2-6—DL2-6C		.30	—DM4-4P		.30	—P171	1-4P	.30
						—DL2-6P		.30	MC5-4—DM5-4C		.30	2-4—P172	2-4C	.30
MW800—DM800		.30	L80—DM800		.30	LC3-6—DL3-6C		.30	—DM5-4P		.30	—P173	2-4P	.30
MW801—DM801		.30	L81—DM801		.30	—DL3-6P		.30	MC61-0—DL61-0C		.30	3-4—P174	3-4C	.30
MW802—DM802		.30	L82—DM802		.30	LC4-6—DL4-6C		.30	—DL61-0P		.30	—P175	3-4P	.30
MW803—DM803		.30	L83—DM803		.30	—DL4-6P		.30	MC62-0—DL62-0C		.30	4-4—P176	4-4C	.30
MW804—DM804		.30	L84—DM804		.30	LC5-6—DL5-6C		.30	—DL62-0P		.30	—P177	4-4P	.30
MW805—DM805		.30	L85—DM805		.30	—DL5-6P		.30	MC66-0—DL66-0C		.30	5-4—P178	5-4C	.30
MW806—DM806		.30	L86—DM806		.30	LC6-6—DL6-6C		.30	—DL66-0P		.30	—P179	5-4P	.30
MW807—DM807		.30	L87—DM807		.30	—DL6-6P		.30	MC51-0—DL51-0C		.30	6-4—P180	6-4C	.30
MW808—DM808		.30	L88—DM808		.30	LC11-6—DL1-6C		.30	—DL51-0P		.30	—P181	6-4P	.30
MW809—DM809		.30	L89—DM809		.30	—DL1-6P		.30	MC52-0—DL52-0C		.30	201-4—201-4C		.30
MW810—DM810		.30	L810—DM810		.30	LC12-6—DL2-6C		.30	—DL52-0P		.30	—201-4P		.30
MW811—DM811		.30	L811—DM811		.30	—DL2-6P		.30	MC61-0—DL61-0C		.30	202-4—202-4C		.30
MW812—DM812		.30	L812—DM812		.30	LC13-6—DL3-6C		.30	—DL61-0P		.30	—202-4P		.30
						—DL3-6P		.30	MC62-0—DL62-0C		.30	203-4—203-4C		.30
									—DL62-0P		.30	—203-4P		.30
												204-4—204-4C		.30
												—204-4P		.30

Smith's Manifolds for Oxygen and Acetylene Gases

Smith's Oxygen Manifolds are devices which permit from 2 to 10 or more cylinders of oxygen to be coupled together for volume use. The 5 and 10 cylinder stationary manifolds are available in floor or wall types. (Floor type is illustrated at right.) Then there is the Star type which handles 3, 4 or 5 cylinders and requires no other support than that received from the

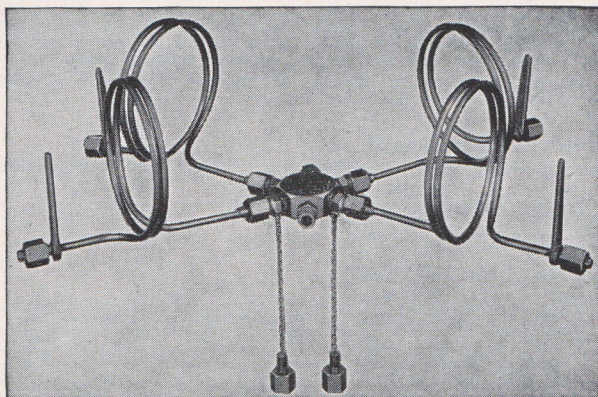
Oxygen Manifolds

Designed for shops or manufacturing plants where gas must be distributed through a pipe line to various welding and cutting stations. Save costly cylinder handling and assure a ready supply of oxygen at all times. Five or more cylinders can be coupled in series so that all or any part of the total can be used at one time to provide a large volume of oxygen at constant pressure. Available in units of 5 cylinders and any reasonable number of units can be used together provided each one has its own regulator. The 10 cylinder manifold consists of two banks of five cylinders with a common outlet pipe and a single check valve and relief valve. A separate regulator is provided for each bank.

Cylinders are connected to manifold through pigtailed made of heavy wall copper tubing. All joints are securely made and entire manifold is tested at pressures in excess of those encountered in actual operation.

NE500 Five Cylinder Oxygen Manifold complete with regulator, fittings, check valve and relief valve. Wall type mounting. Price complete\$227.50

NE501 Five Cylinder Oxygen Manifold complete with regulator, fittings, check valve and relief valve. Floor type mounting. Price complete\$227.50



Star Type Oxygen Manifold

This is a portable type manifold that does an excellent job of supplying volume oxygen requirements for shop or plant use. It is not necessary to attach to wall or floor because this manifold receives its support from the cylinders it connects.

The manifold hub is precision machined of solid brass and pigtailed for attaching cylinders are made of extra heavy copper tubing. Careful testing at a pressure well in excess of that encountered in actual use assures complete safety. Smith's Oxygen cutting regulators or Master Oxygen regulator should be used to supply adequate volume. Regulator is not included in price. Manifolds for 3, 4 or 5 cylinders are available. The 5 cylinder manifold is illustrated.

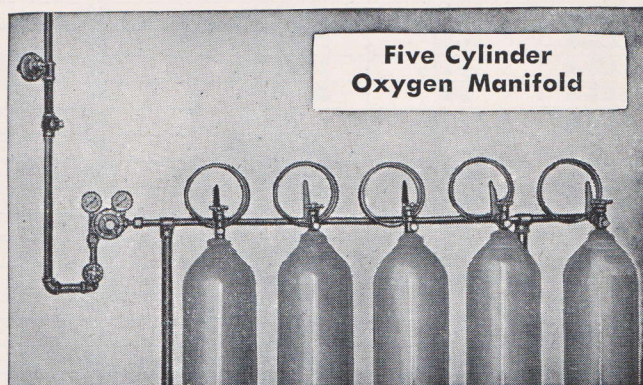
NE503 Three Cylinder Star Type Manifold with two pigtailed and two blank nuts for unused inlets. Price.....\$30.50

NE504 Four Cylinder Star Type Manifold with three pigtailed and two blank nuts for unused inlets. Price.....\$37.50

NE505 Five Cylinder Star Type Manifold with four pigtailed and two blank nuts for unused inlets. Thus the complete manifold may be used with 3, 4 or 5 cylinders. Price.....\$44.50

cylinders. The 2 cylinder type can be quickly attached to the cylinders for heavy cutting or other jobs requiring more oxygen than can be supplied by one cylinder alone.

The 2 cylinder Acetylene Manifold permits two cylinders of acetylene to be used together when it is not convenient to supply the gas with an acetylene generator.



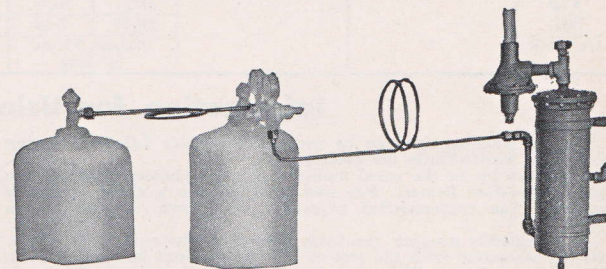
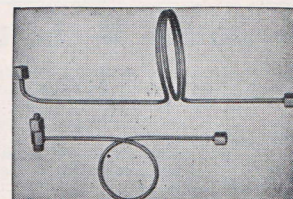
NE510 Ten Cylinder Oxygen Manifold complete with two regulators, fittings, check valve and relief valve. Wall type mounting. Price complete\$455.00

NE511 Ten Cylinder Oxygen Manifold complete with two regulators, fittings, check valve and relief valve. Floor type mounting. Price complete\$455.00

Two Cylinder Oxygen Manifold

A light, portable manifold for connecting two cylinders of oxygen together for large volume gas supply. Can be purchased complete as shown for attaching to oxygen distribution pipe line. If gas is used through a hose direct connected to regulator, only the interconnecting pigtail No. NE506 need be ordered. Shown at bottom of illustration. Use H102 or H317 Oxygen cutting regulators. Regulator is not included in the price.

NE502 Two Cylinder Oxygen Manifold, each.....\$16.50
NE506 Interconnecting pigtail only, each.....9.50
NE507 Regulator to line pigtail, each.....7.00



Two Cylinder Acetylene Manifold

Used to connect two cylinders of acetylene together in order to assure ample supply of gas for long or heavy jobs. Acetylene should not be withdrawn from a cylinder at a rate exceeding one-fifth the entire volume of the cylinder per hour. Pigtailed are heavy brass with silver soldered joints. Furnished complete with combination hydraulic filter tank and flashback check and an automatic safety relief valve. Use Smith's H101J or H315 acetylene regulators with special outlet connection. Regulator not included in price.

NE512 Two Cylinder Acetylene Manifold, each.....\$75.00
NE513 Cylinder connecting pigtail, each.....9.50
NE514 Regulator to filter tank pigtail, each.....7.00
NE515 Filter tank and relief valve assembly, each.....58.50

Helpful Information About Cutting Tips

The cutting tip information shown on this page is to be considered as a guide only and may not always represent the greatest efficiency at which the tips will operate. So many factors enter into efficient and economical cutting that some torch operators may challenge many of the figures given. Such factors as: condition of steel being cut, condition of tips, position of work and personal skill of

the operator, all enter into the final results.

The figures given in the first table below are taken from tests made on new material with new tips used in a cutting machine. Actual operating conditions would cause a considerable amount of variation.

Tip No.	Cutting range in inches	Approximate Oxygen Pressure	Total Oxygen Consumption cubic feet per hour	Approximate Acetylene Pressure	Acetylene Consumption cubic feet per hour	DRILL SIZE	
						Preheat Jets	Cutting Jets
LC0-4	1/8-3/8	20-30 lbs.	45	8-13 lbs.	8	74	60
LC1-4	1/4-1/2	20-30 lbs.	60	8-13 lbs.	10	72	56
LC2-4	3/8-3/4	25-35 lbs.	90	8-13 lbs.	14	67	54
LC3-4	1/2-1 1/2	25-35 lbs.	112	8-13 lbs.	20	64	52
LC4-4	1-4	30-40 lbs.	180	8-13 lbs.	30	58	48
LC0-6	1/8-3/8	20 lbs.	50	8-13 lbs.	10	76	64
LC1-6	1/4-3/4	20-30 lbs.	63	8-13 lbs.	13	70	56
LC2-6	3/8-1 3/4	20-35 lbs.	100	8-13 lbs.	18	68	52
LC3-6	3/4-2 1/2	30-45 lbs.	175	8-13 lbs.	25	64	48
LG4-6	1-4	25-45 lbs.	240	8-13 lbs.	40	62	40
LC5-6	1 1/2-5 1/2	35-50 lbs.	400	9-13 lbs.	50	56	30
LC6-6	4-12 and over	40-150 lbs.	495	9-13 lbs.	65	56	24
MC1-4	1/16-3/8	20 lbs.	40	8-13 lbs.	6	76	64
MC2-4	1/8-5/8	20-25 lbs.	45	8-13 lbs.	8	74	60
MC3-4	1/4-3/4	20-30 lbs.	60	8-13 lbs.	10	72	56
MC4-4	3/8-1 1/4	25-30 lbs.	90	8-13 lbs.	14	67	54
MC5-4	1/2-1 1/2	25-35 lbs.	112	8-13 lbs.	20	64	52
201-4	1/16-1/4	20-30 lbs.	32	8-13 lbs.	8	76	64
202-4	1/4-1/2	25-45 lbs.	40	8-13 lbs.	10	68	60
203-4	1/2-3/4	30-50 lbs.	52	8-13 lbs.	14	64	58
204-4	3/4-1	40-55 lbs.	65	8-13 lbs.	18	62	56

Information on the Use of Smith's Step-Type Cutting Tips for Cutting Sheet Metal

The cut is made by allowing the long step to ride on the kerf with pre-heating and cutting jet holes lined up in the direction of travel. The pre-heating flame precedes the cutting jet in the direction of travel. Good results cannot be obtained unless the tip end is properly positioned.

If, after tightening tip in the torch head, the holes do not point in the proper direction, loosen tip nut and turn tip end until the holes are properly lined up.

Cutting speed on any thickness of material is proportionate to the length of pre-heat flame. Use short pre-heat flame for thin metal and slower speeds. Use longer pre-heat flame for thicker metal and fast cutting. Move tip as rapidly as is possible without losing the cut. Best results are obtained at maximum cutting speeds.

Due to this type of construction, tip end and torch head will heat more than normal under continuous use.

Recommended Pressures and Pre-Heat Flame Lengths

Tip No.	24 Ga.		20 Ga.		18 Ga.		16 Ga.		14 Ga.		12 Ga.		1/8"	
	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.
LC61-0	10-15	7-13	15-35	7-13	20-40	7-13	25-50	7-13	25-50	7-13	25-50	7-13	15-40	9-13
	Preheat Flame 1/8" long		Preheat Flame 3/16" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long	
Tip No.	24 Ga.		20 Ga.		18 Ga.		16 Ga.		14 Ga.		12 Ga.		1/8"	
	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.	Oxy.	Acet.
LC62-0	20-30	7-13	20-30	7-13	20-30	7-13	20-45	7-13	20-50	8-13	20-40	8-13	15-40	9-13
	Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long		Preheat Flame 1/4" long	

Information for Using Smith's Gouging Tips

Smith's gouging tips can be used with Smith's Lifetime cutting torch and Thrift-Torch for cutting.

Light the tip in the usual manner. For continuous gouging, use neutral pre-heat flames. For spot gouging, use a slight excess of oxygen. The recommended pressures are shown in chart given below.

In continuous gouging (uniform groove on the surface of steel), the cut is started with the end of the tip at about 20 degrees from the plate surface. After the groove has been started, the angle of the tip should be reduced just enough to keep the slag from flowing backward in the cut, yet not enough to reduce the required

depth of the groove. In starting the cut, hold the cutting torch so that the cones of the pre-heating flames just touch the work. After the groove is started, hold the pre-heating flame about 1/4 to 1/2 inch back of the puddle.

If convenient, raise one end of the steel plate or piece to be gouged. Start at the higher end. This will assist the slag in running forward.

In spot gouging (single spot such as removal of defective welds) start the cut as described above and gradually increase the tip angle to direct the cutting jet downward until desired depth of cut is obtained.

Operating Data for Smith's Gouging Tips

Tip No.	Oxygen-Pressure Lb. Per Sq. Inch	Acetylene Pressure Lbs. Per Sq. Inch	Approximate Speed Feet Per Minute	Approximate Width	Dimensions of Gouge Depth
LC41-0	25	10-13	1 to 1 1/4	1/8	1/8 to 3/8
	30	10-13	1 1/4 to 1 1/2	1/8	3/8 to 1/4
	35	10-13	1 1/2 to 1 3/4	1/8	1/8 to 1/4
LC42-0	35	10-13	1 1/2 to 2	3/8	1/8 to 1/4
	40	10-13	1 3/4 to 2	1/8	3/8 to 3/4
	45	10-13	2 to 2 1/4	1/8	1/4 to 3/8
LC43-0	40	10-13	2 to 2 1/4	1/2	1/8 to 1/4
	45	10-13	2 1/4 to 2 1/2	1/2	1/4 to 3/8
	50	10-13	2 1/2 to 2 3/4	1/2	1/8 to 1/8

Information on Welding and Heating Tips for AIRLINE, MIDLINE and LIFELONG Torches

Prices and Specifications on Welding Tips AW18 to AW30 Inclusive

TIP SIZE	AW18	AW19	AW20	AW21	AW22	AW23	AW24	AW25	AW26	AW27	AW28	AW29	AW30
LENGTH, Inches	4½	4½	4½	4½	5½	5½	6½	6½	7	7	7½	7½	8½
WEIGHT—Ounces	2¼	2¼	2½	2½	2½	2¾	3	3	3¼	3¼	3¼	3½	3½
DRILL SIZE	78	76	74	71	68	65	62	58	56	54	52	50	48
CLEANER NO.	DA18	DA19	DA20	DA21	DA22	DA23	DA24	DA25	DA26	DA27	DA28	DA29	DA30
CONSUMPTION, Each Gas, Cu. Ft. Per Hr.	.8	1.3	1.7	2.3	3.3	4.2	4.9	6.0	7.4	9.0	12.0	16.0	21.0
RANGE, Inches	Up to ½				Up to ⅙				⅙-⅜	⅜-¾	¾-1¼	¾	¾
PRICE, Each	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
COPPER BENT SECTION, Each	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
MIXING SECTION, Each	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60

Prices and Specifications on Welding Tips MW800 to MW812 Inclusive

TIP SIZE	MW800	MW801	MW802	MW803	MW804	MW805	MW806	MW807	MW808	MW809	MW810	MW811	MW812
LENGTH, Inches	5½	6	7	7¾	8¼	8½	8½	9½	10	10½	11¼	11½	12
WEIGHT, Ounces	4	4	4¼	4¾	5	5¼	5¼	5¾	6	7½	8	8	8¼
DRILL SIZE	71	67	64	61	58	55	52	50	48	46	44	42	40
CLEANER NO.	DM800	DM801	DM802	DM803	DM804	DM805	DM806	DM807	DM808	DM809	DM810	DM811	DM812
CONSUMPTION, Each Gas, Cu. Ft. Per Hr.	1.7	2.8	4.6	5.3	6.0	8.0	12.0	16.5	21.0	22.0	23.0	29.5	36.0
RANGE, Inches	Up to ½	Up to ⅙		⅙-⅜		⅜-¾	¾-1¼	¼-¾		¾-1½		1½-¾	
PRICE, Each	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60	5.20	5.20	5.20
COPPER BENT SECTION, Each	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.60	2.60	2.60
MIXING SECTION, Each	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.60	2.60	2.60

Prices and Specifications on Welding Tips LW700 to LW712 Inclusive

TIP SIZE	LW700	LW701	LW702	LW703	LW704	LW705	LW706	LW707	LW708	LW709	LW710	LW711	LW712
LENGTH—Inches	6½	6½	7½	8½	9½	10½	11½	12½	13½	14½	15½	16½	17½
WEIGHT—Ounces	6½	6½	7	8½	9	11	12	13½	14½	15½	16½	17½	18½
DRILL SIZE	71	63	58	54	52	48	44	40	36	32	28	26	25
CLEANER NO.	DL700	DL701	DL702	DL703	DL704	DL705	DL706	DL707	DL708	DL709	DL710	DL711	DL712
CONSUMPTION Each Gas, Cu. Ft.	3½	5	6	9	12	21	23	36	50	58	100	106	108
RANGE—Inches	½	⅙	⅙-⅜	⅜-¾	¾-1¼	¾-¾	¾-¾	¾-1	1 & Over	Heavy Castings, Etc.			
COMPLETE TIP, Each	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	5.30	6.00	6.00	6.00
MIXING SECTION, Each	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	3.00	3.00	3.00
COPPER BENT SECTION, Each	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	3.00	3.00	3.00

Prices and Specifications on Heating Tips

CAT. NO.	DRILL SIZE	LENGTH IN INCHES	WEIGHT IN OUNCES	CONSUMPTION CU. FT. PER HR.		APPROX. PRESSURE P.S.I.		PRICES		
				OXY.	ACET.	OXY.	ACET.	COMPLETE TIP	MIXING SECTION	COPPER BENT SEC.
*LT505	54	22	20½	85-100	85-100	11-16	11-14	\$13.00	\$3.00	\$10.00
*LT503	56	18	17¼	50-65	50-65	11-16	11-14	11.00	2.65	8.35
MT505	56	15¾	11½	50-65	50-65	11-16	11-14	11.00	2.65	8.35
MT503	64	12	8	30-40	30-40	11-16	11-14	9.00	2.60	6.40
AT505	64	9¾	6½	30-40	30-40	11-16	11-14	9.00	2.60	6.40

*Consumption, pressure and drill size information shown for LT505 and LT503 tips also apply to F270 and F269 tips respectively. Tips Nos. LT505 and F270 have 9 flames. All other sizes have 7 flames.

Important: A sufficient volume of acetylene must be supplied for Heating Tips so that the acetylene flame will leave the tip end before the oxygen valve is opened. When acetylene is supplied by a generator, be sure that generator outlet valve is wide open.

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